

SEQUENCE LISTING

<110> National Institute of Advanced Industrial Science and Technology, Masato MIYAKE, Tomohiro YOSHIKAWA, Jun MIYAKE

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<150> JP 2003-181915

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<160> 48

<170> PatentIn version 3.1

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<212> DNA

<213> Homo sapiens

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ctg ggg aca gcg gtg ccc tcc acg gga gcc tcg aag agc aag agg cag 96

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gct cag caa atg gtt cag ccc cag tcc ccg gtg gct gtc agt caa agc 144
 Ala Gln Gln Met Val Gln Pro Gln Ser Pro Val Ala Val Ser Gln Ser
 35 40 45

aag ccc ggt tgt tat gac aat gga aaa cac tat cag ata aat caa cag 192
 Lys Pro Gly Cys Tyr Asp Asn Gly Lys His Tyr Gln Ile Asn Gln Gln
 50 55 60

tgg gag cgg acc tac cta ggc aat gcg ttg gtt tgt act tgt tat gga 240
 Trp Glu Arg Thr Tyr Leu Gly Asn Ala Leu Val Cys Thr Cys Tyr Gly
 65 70 75 80

gga agc cga ggt ttt aac tgc gag agt aaa cct gaa gct gaa gag act 288
 Gly Ser Arg Gly Phe Asn Cys Glu Ser Lys Pro Glu Ala Glu Glu Thr
 85 90 95

tgc ttt gac aag tac act ggg aac act tac cga gtg ggt gac act tat 336
 Cys Phe Asp Lys Tyr Thr Gly Asn Thr Tyr Arg Val Gly Asp Thr Tyr
 100 105 110

gag cgt cct aaa gac tcc atg atc tgg gac tgt acc tgc atc ggg gct 384
 Glu Arg Pro Lys Asp Ser Met Ile Trp Asp Cys Thr Cys Ile Gly Ala
 115 120 125

ggg cga ggg aga ata agc tgt acc atc gca aac cgc tgc cat gaa ggg 432
 Gly Arg Gly Arg Ile Ser Cys Thr Ile Ala Asn Arg Cys His Glu Gly
 130 135 140

ggt cag tcc tac aag att ggt gac acc tgg agg aga cca cat gag act 480
 Gly Gln Ser Tyr Lys Ile Gly Asp Thr Trp Arg Arg Pro His Glu Thr
 145 150 155 160

ggt ggt tac atg tta gag tgt gtg tgt ctt ggt aat gga aaa gga gaa 528

Gly Gly Tyr Met Leu Glu Cys Val Cys Leu Gly Asn Gly Lys Gly Glu
 165 170 175

tgg acc tgc aag ccc ata gct gag aag tgt ttt gat cat gct gct ggg 576
 Trp Thr Cys Lys Pro Ile Ala Glu Lys Cys Phe Asp His Ala Ala Gly
 180 185 190

act tcc tat gtg gtc gga gaa acg tgg gag aag ccc tac caa ggc tgg 624
 Thr Ser Tyr Val Val Gly Glu Thr Trp Glu Lys Pro Tyr Gln Gly Trp
 195 200 205

atg atg gta gat tgt act tgc ctg gga gaa ggc agc gga cgc atc act 672
 Met Met Val Asp Cys Thr Cys Leu Gly Glu Gly Ser Gly Arg Ile Thr
 210 215 220

tgc act tct aga aat aga tgc aac gat cag gac aca agg aca tcc tat 720
 Cys Thr Ser Arg Asn Arg Cys Asn Asp Gln Asp Thr Arg Thr Ser Tyr
 225 230 235 240

aga att gga gac acc tgg agc aag aag gat aat cga gga aac ctg ctc 768
 Arg Ile Gly Asp Thr Trp Ser Lys Lys Asp Asn Arg Gly Asn Leu Leu
 245 250 255

cag tgc atc tgc aca ggc aac ggc cga gga gag tgg aag tgt gag agg 816
 Gln Cys Ile Cys Thr Gly Asn Gly Arg Gly Glu Trp Lys Cys Glu Arg
 260 265 270

cac acc tct gtg cag acc aca tcg agc gga tct ggc ccc ttc acc gat 864
 His Thr Ser Val Gln Thr Thr Ser Ser Gly Ser Gly Pro Phe Thr Asp
 275 280 285

gtt cgt gca gct gtt tac caa ccg cag cct cac ccc cag cct cct ccc 912
 Val Arg Ala Ala Val Tyr Gln Pro Gln Pro His Pro Gln Pro Pro Pro
 290 295 300

tat ggc cac tgt gtc aca gac agt ggt gtg gtc tac tct gtg ggg atg 960

Tyr Gly His Cys Val Thr Asp Ser Gly Val Val Tyr Ser Val Gly Met
 305 310 315 320

cag tgg ctg aag aca caa gga aat aag caa atg ctt tgc acg tgc ctg 1008
 Gln Trp Leu Lys Thr Gln Gly Asn Lys Gln Met Leu Cys Thr Cys Leu
 325 330 335

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 Gly Asn Gly Val Ser Cys Gln Glu Thr Ala Val Thr Gln Thr Tyr Gly
 340 345 350

ggc aac tca aat gga gag cca tgt gtc tta cca ttc acc tac aat ggc 1104
 Gly Asn Ser Asn Gly Glu Pro Cys Val Leu Pro Phe Thr Tyr Asn Gly
 355 360 365

agg acg gac agc aca act tcg aat tat gag cag gac cag aaa tac tct 1152
 Arg Thr Asp Ser Thr Thr Ser Asn Tyr Glu Gln Asp Gln Lys Tyr Ser
 370 375 380

ttc tgc aca gac cac act gtt ttg gtt cag act cga gga gga aat tcc 1200
 Phe Cys Thr Asp His Thr Val Leu Val Gln Thr Arg Gly Gly Asn Ser
 385 390 395 400

aat ggt gcc ttg tgc cac ttc ccc ttc cta tac aac aac cac aat tac 1248
 Asn Gly Ala Leu Cys His Phe Pro Phe Leu Tyr Asn Asn His Asn Tyr
 405 410 415

act gat tgc act tct gag ggc aga aga gac aac atg aag tgg tgt ggg 1296
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 420 425 430

acc aca cag aac tat gat gcc gac cag aag ttt ggg ttc tgc ccc atg 1344
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gct gcc cac gag gaa atc tgc aca acc aat gaa ggg gtc atg tac cgc 1392

Ala Ala His Glu Glu Ile Cys Thr Thr Asn Glu Gly Val Met Tyr Arg
 450 455 460

att gga gat cag tgg gat aag cag cat gac atg ggt cac atg atg agg 1440
 Ile Gly Asp Gln Trp Asp Lys Gln His Asp Met Gly His Met Met Arg
 465 470 475 480

tgc acg tgt gtt ggg aat ggt cgt ggg gaa tgg aca tgc att gcc tac 1488
 Cys Thr Cys Val Gly Asn Gly Arg Gly Glu Trp Thr Cys Ile Ala Tyr
 485 490 495

tcg cag ctt cga gat cag tgc att gtt gat gac atc act tac aat gtg 1536
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aac gac aca ttc cac aag cgt cat gaa gag ggg cac atg ctg aac tgt 1584
 Asn Asp Thr Phe His Lys Arg His Glu Glu Gly His Met Leu Asn Cys
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aca tgc ttc ggt cag ggt cgg ggc agg tgg aag tgt gat ccc gtc gac 1632
 Thr Cys Phe Gly Gln Gly Arg Gly Arg Trp Lys Cys Asp Pro Val Asp
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caa tgc cag gat tca gag act ggg acg ttt tat caa att gga gat tca 1680
 Gln Cys Gln Asp Ser Glu Thr Gly Thr Phe Tyr Gln Ile Gly Asp Ser
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 Trp Glu Lys Tyr Val His Gly Val Arg Tyr Gln Cys Tyr Cys Tyr Gly
 565 570 575

cgt ggc att ggg gag tgg cat tgc caa cct tta cag acc tat cca agc 1776
 Arg Gly Ile Gly Glu Trp His Cys Gln Pro Leu Gln Thr Tyr Pro Ser
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Ser Ser Gly Pro Val Glu Val Phe Ile Thr Glu Thr Pro Ser Gln Pro
 595 600 605

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 Asn Ser His Pro Ile Gln Trp Asn Ala Pro Gln Pro Ser His Ile Ser
 610 615 620

aag tac att ctc agg tgg aga cct gtg agt atc cca ccc aga aac ctt 1920
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gga tac tga 1929
 Gly Tyr

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<212> PRT

<213> Homo sapiens

<400> 2

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 35 40 45

Lys Pro Gly Cys Tyr Asp Asn Gly Lys His Tyr Gln Ile Asn Gln Gln

50

55

60

Trp Glu Arg Thr Tyr Leu Gly Asn Ala Leu Val Cys Thr Cys Tyr Gly
 65 70 75 80

Gly Ser Arg Gly Phe Asn Cys Glu Ser Lys Pro Glu Ala Glu Glu Thr
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Cys Phe Asp Lys Tyr Thr Gly Asn Thr Tyr Arg Val Gly Asp Thr Tyr
 100 105 110

Glu Arg Pro Lys Asp Ser Met Ile Trp Asp Cys Thr Cys Ile Gly Ala
 115 120 125

Gly Arg Gly Arg Ile Ser Cys Thr Ile Ala Asn Arg Cys His Glu Gly
 130 135 140

Gly Gln Ser Tyr Lys Ile Gly Asp Thr Trp Arg Arg Pro His Glu Thr
 145 150 155 160

Gly Gly Tyr Met Leu Glu Cys Val Cys Leu Gly Asn Gly Lys Gly Glu
 165 170 175

Trp Thr Cys Lys Pro Ile Ala Glu Lys Cys Phe Asp His Ala Ala Gly
 180 185 190

Thr Ser Tyr Val Val Gly Glu Thr Trp Glu Lys Pro Tyr Gln Gly Trp
 195 200 205

Met Met Val Asp Cys Thr Cys Leu Gly Glu Gly Ser Gly Arg Ile Thr
 210 215 220

Cys Thr Ser Arg Asn Arg Cys Asn Asp Gln Asp Thr Arg Thr Ser Tyr
 225 230 235 240

Arg Ile Gly Asp Thr Trp Ser Lys Lys Asp Asn Arg Gly Asn Leu Leu
 245 250 255

Gln Cys Ile Cys Thr Gly Asn Gly Arg Gly Glu Trp Lys Cys Glu Arg
 260 265 270

His Thr Ser Val Gln Thr Thr Ser Ser Gly Ser Gly Pro Phe Thr Asp
 275 280 285

Val Arg Ala Ala Val Tyr Gln Pro Gln Pro His Pro Gln Pro Pro Pro
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Tyr Gly His Cys Val Thr Asp Ser Gly Val Val Tyr Ser Val Gly Met
 305 310 315 320

Gln Trp Leu Lys Thr Gln Gly Asn Lys Gln Met Leu Cys Thr Cys Leu
 325 330 335

Gly Asn Gly Val Ser Cys Gln Glu Thr Ala Val Thr Gln Thr Tyr Gly
340 345 350

Gly Asn Ser Asn Gly Glu Pro Cys Val Leu Pro Phe Thr Tyr Asn Gly
355 360 365

Arg Thr Asp Ser Thr Thr Ser Asn Tyr Glu Gln Asp Gln Lys Tyr Ser
370 375 380

Phe Cys Thr Asp His Thr Val Leu Val Gln Thr Arg Gly Gly Asn Ser
385 390 395 400

Asn Gly Ala Leu Cys His Phe Pro Phe Leu Tyr Asn Asn His Asn Tyr
405 410 415

Thr Asp Cys Thr Ser Glu Gly Arg Arg Asp Asn Met Lys Trp Cys Gly
420 425 430

Thr Thr Gln Asn Tyr Asp Ala Asp Gln Lys Phe Gly Phe Cys Pro Met
435 440 445

Ala Ala His Glu Glu Ile Cys Thr Thr Asn Glu Gly Val Met Tyr Arg
450 455 460

Ile Gly Asp Gln Trp Asp Lys Gln His Asp Met Gly His Met Met Arg
465 470 475 480

Cys Thr Cys Val Gly Asn Gly Arg Gly Glu Trp Thr Cys Ile Ala Tyr
485 490 495

Ser Gln Leu Arg Asp Gln Cys Ile Val Asp Asp Ile Thr Tyr Asn Val
500 505 510

Asn Asp Thr Phe His Lys Arg His Glu Glu Gly His Met Leu Asn Cys
515 520 525

Thr Cys Phe Gly Gln Gly Arg Gly Arg Trp Lys Cys Asp Pro Val Asp
530 535 540

Gln Cys Gln Asp Ser Glu Thr Gly Thr Phe Tyr Gln Ile Gly Asp Ser
545 550 555 560

Trp Glu Lys Tyr Val His Gly Val Arg Tyr Gln Cys Tyr Cys Tyr Gly
565 570 575

Arg Gly Ile Gly Glu Trp His Cys Gln Pro Leu Gln Thr Tyr Pro Ser
580 585 590

Ser Ser Gly Pro Val Glu Val Phe Ile Thr Glu Thr Pro Ser Gln Pro
595 600 605

Asn Ser His Pro Ile Gln Trp Asn Ala Pro Gln Pro Ser His Ile Ser
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Lys Tyr Ile Leu Arg Trp Arg Pro Val Ser Ile Pro Pro Arg Asn Leu
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Gly Tyr

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 <213> Mus musculus

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 <222> (1)..(1437)
 <223> vitronectin

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 Ser Leu Ala Asp Gln Glu Ser Cys Lys Gly Arg Cys Thr Gln Gly Phe
 20 25 30

atg gcc agc aag aag tgt cag tgt gac gag ctt tgc act tac tat cag 144
 Met Ala Ser Lys Lys Cys Gln Cys Asp Glu Leu Cys Thr Tyr Tyr Gln
 35 40 45

agc tgc tgt gcc gac tac atg gag cag tgc aag ccc caa gta acg cgg 192
 Ser Cys Cys Ala Asp Tyr Met Glu Gln Cys Lys Pro Gln Val Thr Arg
 50 55 60

ggg gac gtg ttc act atg cca gag gat gat tat tgg agc tat gac tac 240
 Gly Asp Val Phe Thr Met Pro Glu Asp Asp Tyr Trp Ser Tyr Asp Tyr
 65 70 75 80

gtg gag gag ccc aag aac aat acc aac acc ggt gtg caa ccc gag aac 288
 Val Glu Glu Pro Lys Asn Asn Thr Asn Thr Gly Val Gln Pro Glu Asn
 85 90 95

acc tct cca ccc ggt gac cta aat cct cgg acg gac ggc act cta aag 336
 Thr Ser Pro Pro Gly Asp Leu Asn Pro Arg Thr Asp Gly Thr Leu Lys
 100 105 110

ccg aca gcc ttc cta gat cct gag gaa cag cca agc acc cca gcg cct 384
 Pro Thr Ala Phe Leu Asp Pro Glu Glu Gln Pro Ser Thr Pro Ala Pro
 115 120 125

aaa gtg gag caa cag gag gag atc cta agg ccc gac acc act gat caa 432
 Lys Val Glu Gln Gln Glu Glu Ile Leu Arg Pro Asp Thr Thr Asp Gln
 130 135 140

ggg acc cct gag ttt cca gag gaa gaa ctg tgc agt gga aag ccc ttt 480
 Gly Thr Pro Glu Phe Pro Glu Glu Glu Leu Cys Ser Gly Lys Pro Phe
 145 150 155 160

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 Asp Ala Phe Thr Asp Leu Lys Asn Gly Ser Leu Phe Ala Phe Arg Gly
 165 170 175

cag tac cgc tgt gag cta gat gag acg gca gtg agg cct ggg tac ccc 576
 Gln Tyr Arg Cys Glu Leu Asp Glu Thr Ala Val Arg Pro Gly Tyr Pro
 180 185 190

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 Lys Leu Ile Gln Asp Val Trp Gly Ile Glu Gly Pro Ile Asp Ala Ala
 195 200 205

ttc act cgc atc aac tgt cag ggg aag acc tac ttg ttc aag ggt agt 672
 Phe Thr Arg Ile Asn Cys Gln Gly Lys Thr Tyr Leu Phe Lys Gly Ser
 210 215 220

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 Gln Tyr Trp Arg Phe Glu Asp Gly Val Leu Asp Pro Gly Tyr Pro Arg
 225 230 235 240

aac atc tcc gaa ggc ttc agt ggc ata cca gac aat gtt gat gca gcg 768
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 245 250 255

ttc gcc ctt cct gcc cac cgt tac agt ggc cgg gaa agg gtc tac ttc 816
 Phe Ala Leu Pro Ala His Arg Tyr Ser Gly Arg Glu Arg Val Tyr Phe
 260 265 270

ttc aag ggg aag cag tac tgg gag cac gaa ttt cag cag caa ccc agc 864
 Phe Lys Gly Lys Gln Tyr Trp Glu His Glu Phe Gln Gln Gln Pro Ser
 275 280 285

cag gag gag tgc gaa ggc agc tct ctg tca gcc gtg ttt gag cac ttt 912
 Gln Glu Glu Cys Glu Gly Ser Ser Leu Ser Ala Val Phe Glu His Phe
 290 295 300

gcc ttg ctt cag cgg gac agc tgg gag aac att ttc gaa ctc ctc ttc 960
 Ala Leu Leu Gln Arg Asp Ser Trp Glu Asn Ile Phe Glu Leu Leu Phe
 305 310 315 320

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 325 330 335

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 Asn Trp His Gly Val Pro Gly Lys Val Asp Ala Ala Met Ala Gly Arg
 340 345 350

atc tac gtc act ggc tcc tta tcc cac tct gcc caa gcc aaa aaa cag 1104

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360

365

ccg tct aag cgt aga agc cga aag cgc tat cgt tca cgc cga ggg cgt 1152

Pro Ser Lys Arg Arg Ser Arg Lys Arg Tyr Arg Ser Arg Arg Gly Arg

370

375

380

ggc cac aga cgc agc cag agc tcg aac tcc cgt cgt tca tca cgt tca 1200

Gly His Arg Arg Ser Gln Ser Ser Asn Ser Arg Arg Ser Ser Arg Ser

385

390

395

400

atc tgg ttc tct ttg ttc tcc agc gag gag agt ggg cta gga acc tac 1248

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405

410

415

aac aac tat gat tat gat atg gac tgg ctt gta cct gcc acc tgc gag 1296

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420

425

430

ccc att cag agc gtc tat ttc ttc tct gga gac aaa tac tac cga gtc 1344

Pro Ile Gln Ser Val Tyr Phe Phe Ser Gly Asp Lys Tyr Tyr Arg Val

435

440

445

aac ctt aga acc cgg cga gtg gac tct gtg aat cct ccc tac cca cgc 1392

Asn Leu Arg Thr Arg Arg Val Asp Ser Val Asn Pro Pro Tyr Pro Arg

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455

460

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470

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<211> 478

<212> PRT

<213> Mus musculus

<400> 4

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 35 40 45

Ser Cys Cys Ala Asp Tyr Met Glu Gln Cys Lys Pro Gln Val Thr Arg
 50 55 60

Gly Asp Val Phe Thr Met Pro Glu Asp Asp Tyr Trp Ser Tyr Asp Tyr
 65 70 75 80

Val Glu Glu Pro Lys Asn Asn Thr Asn Thr Gly Val Gln Pro Glu Asn
 85 90 95

Thr Ser Pro Pro Gly Asp Leu Asn Pro Arg Thr Asp Gly Thr Leu Lys
 100 105 110

Pro Thr Ala Phe Leu Asp Pro Glu Glu Gln Pro Ser Thr Pro Ala Pro
 115 120 125

Lys Val Glu Gln Gln Glu Glu Ile Leu Arg Pro Asp Thr Thr Asp Gln
130 135 140

Gly Thr Pro Glu Phe Pro Glu Glu Glu Leu Cys Ser Gly Lys Pro Phe
145 150 155 160

Asp Ala Phe Thr Asp Leu Lys Asn Gly Ser Leu Phe Ala Phe Arg Gly
165 170 175

Gln Tyr Arg Cys Glu Leu Asp Glu Thr Ala Val Arg Pro Gly Tyr Pro
180 185 190

Lys Leu Ile Gln Asp Val Trp Gly Ile Glu Gly Pro Ile Asp Ala Ala
195 200 205

Phe Thr Arg Ile Asn Cys Gln Gly Lys Thr Tyr Leu Phe Lys Gly Ser
210 215 220

Gln Tyr Trp Arg Phe Glu Asp Gly Val Leu Asp Pro Gly Tyr Pro Arg
225 230 235 240

Asn Ile Ser Glu Gly Phe Ser Gly Ile Pro Asp Asn Val Asp Ala Ala
245 250 255

Phe Ala Leu Pro Ala His Arg Tyr Ser Gly Arg Glu Arg Val Tyr Phe
260 265 270

Phe Lys Gly Lys Gln Tyr Trp Glu His Glu Phe Gln Gln Gln Pro Ser
275 280 285

Gln Glu Glu Cys Glu Gly Ser Ser Leu Ser Ala Val Phe Glu His Phe
290 295 300

Ala Leu Leu Gln Arg Asp Ser Trp Glu Asn Ile Phe Glu Leu Leu Phe
305 310 315 320

Trp Gly Arg Ser Ser Asp Gly Ala Arg Glu Pro Gln Phe Ile Ser Arg
325 330 335

Asn Trp His Gly Val Pro Gly Lys Val Asp Ala Ala Met Ala Gly Arg
340 345 350

Ile Tyr Val Thr Gly Ser Leu Ser His Ser Ala Gln Ala Lys Lys Gln
355 360 365

Pro Ser Lys Arg Arg Ser Arg Lys Arg Tyr Arg Ser Arg Arg Gly Arg
370 375 380

Gly His Arg Arg Ser Gln Ser Ser Asn Ser Arg Arg Ser Ser Arg Ser
385 390 395 400

Ile Trp Phe Ser Leu Phe Ser Ser Glu Glu Ser Gly Leu Gly Thr Tyr
405 410 415

Asn Asn Tyr Asp Tyr Asp Met Asp Trp Leu Val Pro Ala Thr Cys Glu
 420 425 430

Pro Ile Gln Ser Val Tyr Phe Phe Ser Gly Asp Lys Tyr Tyr Arg Val
 435 440 445

Asn Leu Arg Thr Arg Arg Val Asp Ser Val Asn Pro Pro Tyr Pro Arg
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 465 470 475

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<211> 9511

<212> DNA

<213> Mus musculus

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<221> CDS

<222> (121)..(9372)

<223> laminin-2 alpha chain

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cag cgg cga cag tcc caa gcg cat caa cag aga ggt tta ttt cct gct 168

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Val Leu Asn Leu Ala Ser Asn Ala Leu Ile Thr Thr Asn Ala Thr Cys				
	20	25	30	
ggg gaa aaa gga ccc gag atg tac tgc aag ttg gtg gaa cat gtc ccc				264
Gly Glu Lys Gly Pro Glu Met Tyr Cys Lys Leu Val Glu His Val Pro				
	35	40	45	
ggg cag cct gtg agg aac cct cag tgc cga atc tgc aat cag aac agc				312
Gly Gln Pro Val Arg Asn Pro Gln Cys Arg Ile Cys Asn Gln Asn Ser				
	50	55	60	
agc aat cca tac cag agg cac ccg att acg aat gct att gat ggc aag				360
Ser Asn Pro Tyr Gln Arg His Pro Ile Thr Asn Ala Ile Asp Gly Lys				
65	70	75	80	
aac aca tgg tgg cag agt ccc agt atc aag aat gga gtg gaa tac cat				408
Asn Thr Trp Trp Gln Ser Pro Ser Ile Lys Asn Gly Val Glu Tyr His				
	85	90	95	
tat gtg aca att act ctg gat tta cag cag gtg ttc cag att gcc tac				456
Tyr Val Thr Ile Thr Leu Asp Leu Gln Gln Val Phe Gln Ile Ala Tyr				
	100	105	110	
gta att gtg aag gca gcc aat tcc cct cgg cct gga aac tgg att ttg				504
Val Ile Val Lys Ala Ala Asn Ser Pro Arg Pro Gly Asn Trp Ile Leu				
	115	120	125	
gaa cgt tcc ctg gat gac gtg gag tac aaa ccc tgg cag tat cat gcg				552
Glu Arg Ser Leu Asp Asp Val Glu Tyr Lys Pro Trp Gln Tyr His Ala				
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Val Thr Asp Thr Glu Cys Leu Thr Leu Tyr Asn Ile Tyr Pro Arg Thr				

145	150	155	160
gga cca cca tcc tac gcc aaa gat gat gag gtc atc tgc act tca ttt 648			
Gly Pro Pro Ser Tyr Ala Lys Asp Asp Glu Val Ile Cys Thr Ser Phe			
165	170	175	
tat tgc aag atc cac cct tta gaa aat gga gag att cac att tct ttg 696			
Tyr Ser Lys Ile His Pro Leu Glu Asn Gly Glu Ile His Ile Ser Leu			
180	185	190	
atc aat ggg aga cca agt gct gat gac ccc tcc cct gaa ctc ctg gaa 744			
Ile Asn Gly Arg Pro Ser Ala Asp Asp Pro Ser Pro Glu Leu Leu Glu			
195	200	205	
ttc acc tct gct cgc tac att cgc ctg aga ttt cag agg atc cgc acc 792			
Phe Thr Ser Ala Arg Tyr Ile Arg Leu Arg Phe Gln Arg Ile Arg Thr			
210	215	220	
ttg aat gca gac ttg atg atg ttt gct cac aaa gac ccc aga gaa atc 840			
Leu Asn Ala Asp Leu Met Met Phe Ala His Lys Asp Pro Arg Glu Ile			
225	230	235	240
gat ccc att gtc aca cga aga tat tac tat tct gtc aag gat att tca 888			
Asp Pro Ile Val Thr Arg Arg Tyr Tyr Tyr Ser Val Lys Asp Ile Ser			
245	250	255	
gtt ggc ggg atg tgc atc tgt tat ggt cat gcc cgg gct tgt cca ctt 936			
Val Gly Gly Met Cys Ile Cys Tyr Gly His Ala Arg Ala Cys Pro Leu			
260	265	270	
gac cct gca aca aat aaa tca cgc tgt gag tgt gaa cat aac acc tgt 984			
Asp Pro Ala Thr Asn Lys Ser Arg Cys Glu Cys Glu His Asn Thr Cys			
275	280	285	
ggg gaa agc tgt gac agg tgc tgt cca gga ttc cat cag aag cct tgg 1032			
Gly Glu Ser Cys Asp Arg Cys Cys Pro Gly Phe His Gln Lys Pro Trp			

290	295	300	
aga gct gga acc ttc ctc acc aag tct gag tgt gaa gca tgc aat tgt 1080			
Arg Ala Gly Thr Phe Leu Thr Lys Ser Glu Cys Glu Ala Cys Asn Cys			
305	310	315	320
cac gga aaa gct gag gaa tgc tat tat gat gaa act gtt gct agc aga 1128			
His Gly Lys Ala Glu Glu Cys Tyr Tyr Asp Glu Thr Val Ala Ser Arg			
	325	330	335
aat cta agt tta aat ata cat ggg aag tac atc gga ggg ggt gtg tgc 1176			
Asn Leu Ser Leu Asn Ile His Gly Lys Tyr Ile Gly Gly Gly Val Cys			
	340	345	350
atc aac tgc aca cat aac acg gct ggg ata aat tgt gag aca tgt gtt 1224			
Ile Asn Cys Thr His Asn Thr Ala Gly Ile Asn Cys Glu Thr Cys Val			
	355	360	365
gat gga ttc ttc aga ccc aaa ggg gtg tca cca aat tat cca aga cca 1272			
Asp Gly Phe Phe Arg Pro Lys Gly Val Ser Pro Asn Tyr Pro Arg Pro			
	370	375	380
tgc cag cca tgt cac tgt gat cca act ggc tcc ctt agt gaa gtc tgt 1320			
Cys Gln Pro Cys His Cys Asp Pro Thr Gly Ser Leu Ser Glu Val Cys			
	385	390	395
			400
gtc aaa gat gag aaa tac gcc cag cga ggg ttg aaa cct gga tcc tgt 1368			
Val Lys Asp Glu Lys Tyr Ala Gln Arg Gly Leu Lys Pro Gly Ser Cys			
	405	410	415
cac tgc aaa act ggc ttt gga ggc gtg aac tgt gat cgc tgt gtc agg 1416			
His Cys Lys Thr Gly Phe Gly Gly Val Asn Cys Asp Arg Cys Val Arg			
	420	425	430
ggg tac cat ggt tac cca gac tgc caa ccc tgt aac tgt agt ggc ttg 1464			
Gly Tyr His Gly Tyr Pro Asp Cys Gln Pro Cys Asn Cys Ser Gly Leu			

435	440	445	
ggg agc aca aat gag gac cct tgc gtt ggg ccc tgt agc tgt aag gag 1512			
Gly Ser Thr Asn Glu Asp Pro Cys Val Gly Pro Cys Ser Cys Lys Glu			
450	455	460	
aat gtt gaa ggt gaa gac tgt agt cgt tgc aaa tct ggt ttc ttc aac 1560			
Asn Val Glu Gly Glu Asp Cys Ser Arg Cys Lys Ser Gly Phe Phe Asn			
465	470	475	480
ttg caa gaa gat aat cag aaa ggc tgt gag gag tgt ttc tgt tca gga 1608			
Leu Gln Glu Asp Asn Gln Lys Gly Cys Glu Glu Cys Phe Cys Ser Gly			
	485	490	495
gta tca aac aga tgt cag agt tcc tac tgg acc tat ggg aat att caa 1656			
Val Ser Asn Arg Cys Gln Ser Ser Tyr Trp Thr Tyr Gly Asn Ile Gln			
500	505	510	
gac atg cgt ggt tgg tat ctc aca gac ctc tct ggc cgc att cgg atg 1704			
Asp Met Arg Gly Trp Tyr Leu Thr Asp Leu Ser Gly Arg Ile Arg Met			
515	520	525	
gct ccc cag ctt gat aac cct gac tca cct cag cag atc agc atc agt 1752			
Ala Pro Gln Leu Asp Asn Pro Asp Ser Pro Gln Gln Ile Ser Ile Ser			
530	535	540	
aac tct gag gcc cgg aaa tcc ctg ctt gat ggt tac tac tgg agt gca 1800			
Asn Ser Glu Ala Arg Lys Ser Leu Leu Asp Gly Tyr Tyr Trp Ser Ala			
545	550	555	560
ccg cct cca tat ctg gga aac aga ctt cca gct gtt ggg gga cag ttg 1848			
Pro Pro Pro Tyr Leu Gly Asn Arg Leu Pro Ala Val Gly Gly Gln Leu			
565	570	575	
tca ttt acc atc tca tat gac ctc gaa gaa gag gaa gac gat aca gaa 1896			
Ser Phe Thr Ile Ser Tyr Asp Leu Glu Glu Glu Glu Asp Asp Thr Glu			

580

585

590

aaa ctc ctt cag ctg atg att atc ttt gag gga aat gac tta aga atc 1944

Lys Leu Leu Gln Leu Met Ile Ile Phe Glu Gly Asn Asp Leu Arg Ile

595

600

605

agc aca gcg tat aag gag gtg tac tta gag cca tct gaa gaa cac gtt 1992

Ser Thr Ala Tyr Lys Glu Val Tyr Leu Glu Pro Ser Glu Glu His Val

610

615

620

gag gag gtg tca ctc aaa gaa gag gcc ttt act ata cat gga aca aat 2040

Glu Glu Val Ser Leu Lys Glu Glu Ala Phe Thr Ile His Gly Thr Asn

625

630

635

640

ttg cca gtc act aga aaa gat ttc atg att gtt ctc aca aat ttg gga 2088

Leu Pro Val Thr Arg Lys Asp Phe Met Ile Val Leu Thr Asn Leu Gly

645

650

655

gag atc ctt atc caa atc aca tac aac tta ggg atg gac gcc atc ttc 2136

Glu Ile Leu Ile Gln Ile Thr Tyr Asn Leu Gly Met Asp Ala Ile Phe

660

665

670

agg ctg agt tct gtc aat ctt gaa tct cct gtc cct tat cct act gat 2184

Arg Leu Ser Ser Val Asn Leu Glu Ser Pro Val Pro Tyr Pro Thr Asp

675

680

685

aga cgt att gca act gat gtg gaa gtt tgc cag tgt cca cct ggg tac 2232

Arg Arg Ile Ala Thr Asp Val Glu Val Cys Gln Cys Pro Pro Gly Tyr

690

695

700

agt ggc agc tct tgt gaa aca tgt tgg cct agg cac cga aga gtt aac 2280

Ser Gly Ser Ser Cys Glu Thr Cys Trp Pro Arg His Arg Arg Val Asn

705

710

715

720

ggc acc att ttt ggt ggc att tgt gaa cca tgt cag tgc ttt gct cat 2328

Gly Thr Ile Phe Gly Gly Ile Cys Glu Pro Cys Gln Cys Phe Ala His

725	730	735	
gca gaa gcc tgt gat gac atc aca gga gaa tgt ctg aac tgt aag gat 2376			
Ala Glu Ala Cys Asp Asp Ile Thr Gly Glu Cys Leu Asn Cys Lys Asp			
740	745	750	
cac aca ggt ggg ccg tac tgc aat gaa tgt ctc cct gga ttc tat ggt 2424			
His Thr Gly Gly Pro Tyr Cys Asn Glu Cys Leu Pro Gly Phe Tyr Gly			
755	760	765	
gat cct act cga gga agc cct gaa gac tgt cag ccc tgt gcc tgt cca 2472			
Asp Pro Thr Arg Gly Ser Pro Glu Asp Cys Gln Pro Cys Ala Cys Pro			
770	775	780	
ctc aat atc cca tca aat aac ttt agt cca aca tgc cat tta gac cgg 2520			
Leu Asn Ile Pro Ser Asn Asn Phe Ser Pro Thr Cys His Leu Asp Arg			
785	790	795	800
agt ctg gga ttg atc tgt gac gag tgt cct att ggg tac aca gga ccg 2568			
Ser Leu Gly Leu Ile Cys Asp Glu Cys Pro Ile Gly Tyr Thr Gly Pro			
805	810	815	
cgc tgt gag agg tgt gca gaa ggc tat ttt gga caa cct tcc gta cct 2616			
Arg Cys Glu Arg Cys Ala Glu Gly Tyr Phe Gly Gln Pro Ser Val Pro			
820	825	830	
gga gga tca tgt cag cca tgc caa tgc aat gac aac ctt gac tac tcc 2664			
Gly Gly Ser Cys Gln Pro Cys Gln Cys Asn Asp Asn Leu Asp Tyr Ser			
835	840	845	
atc cct ggc agc tgt gac agc ctg tct ggc tcc tgt ctg att tgt aag 2712			
Ile Pro Gly Ser Cys Asp Ser Leu Ser Gly Ser Cys Leu Ile Cys Lys			
850	855	860	
cca ggt aca aca ggc cgg tac tgt gag ctc tgt gct gat ggg tat ttt 2760			
Pro Gly Thr Thr Gly Arg Tyr Cys Glu Leu Cys Ala Asp Gly Tyr Phe			

865	870	875	880
gga gac gcg gtt aat aca aag aac tgt caa cca tgc cgt tgt gat atc 2808			
Gly Asp Ala Val Asn Thr Lys Asn Cys Gln Pro Cys Arg Cys Asp Ile			
885	890	895	
aat ggc tcc ttc tca gag gat tgt cac aca aga act ggg caa tgt gag 2856			
Asn Gly Ser Phe Ser Glu Asp Cys His Thr Arg Thr Gly Gln Cys Glu			
900	905	910	
tgc aga ccc aat gtt cag ggg cgg cac tgt gac gag tgt aag cct gaa 2904			
Cys Arg Pro Asn Val Gln Gly Arg His Cys Asp Glu Cys Lys Pro Glu			
915	920	925	
acc ttt ggc ctg caa ctg gga agg ggt tgt ctg ccc tgc aac tgc aat 2952			
Thr Phe Gly Leu Gln Leu Gly Arg Gly Cys Leu Pro Cys Asn Cys Asn			
930	935	940	
tct ttt ggg tct aag tcc ttt gac tgt gaa gca agt ggg cag tgc tgg 3000			
Ser Phe Gly Ser Lys Ser Phe Asp Cys Glu Ala Ser Gly Gln Cys Trp			
945	950	955	960
tgc cag cct gga gta gca ggg aag aaa tgt gac cgt tgt gcc cat ggc 3048			
Cys Gln Pro Gly Val Ala Gly Lys Lys Cys Asp Arg Cys Ala His Gly			
965	970	975	
tac ttc aac ttc caa gaa gga ggc tgc ata gct tgt gac tgt tct cat 3096			
Tyr Phe Asn Phe Gln Glu Gly Gly Cys Ile Ala Cys Asp Cys Ser His			
980	985	990	
ctg ggc aac aac tgt gac cca aaa act ggc caa tgc att tgc cca ccc 3144			
Leu Gly Asn Asn Cys Asp Pro Lys Thr Gly Gln Cys Ile Cys Pro Pro			
995	1000	1005	
aat acc act gga gaa aag tgt tct gag tgt ctt ccc aac acc tgg 3189			
Asn Thr Thr Gly Glu Lys Cys Ser Glu Cys Leu Pro Asn Thr Trp			

1010	1015	1020	
ggt cac	agc att gtc acc ggc	tgt aag gtt tgt aac	tgc agc act 3234
Gly His	Ser Ile Val Thr Gly	Cys Lys Val Cys Asn	Cys Ser Thr
1025	1030	1035	
gtg ggg	tcc ttg gct tct cag	tgc aat gta aac acg	ggc cag tgc 3279
Val Gly	Ser Leu Ala Ser Gln	Cys Asn Val Asn Thr	Gly Gln Cys
1040	1045	1050	
agc tgt	cat cca aaa ttc tct	ggt atg aaa tgc tca	gag tgc agc 3324
Ser Cys	His Pro Lys Phe Ser	Gly Met Lys Cys Ser	Glu Cys Ser
1055	1060	1065	
cga ggt	cac tgg aac tat cct	ctc tgc act cta tgt	gac tgc ttc 3369
Arg Gly	His Trp Asn Tyr Pro	Leu Cys Thr Leu Cys	Asp Cys Phe
1070	1075	1080	
ctt cca	ggc aca gat gcc acg	act tgt gat ctg gag	act agg aaa 3414
Leu Pro	Gly Thr Asp Ala Thr	Thr Cys Asp Leu Glu	Thr Arg Lys
1085	1090	1095	
tgc tcc	tgt agt gat caa act	gga cag tgc agc tgt	aag gtg aat 3459
Cys Ser	Cys Ser Asp Gln Thr	Gly Gln Cys Ser Cys	Lys Val Asn
1100	1105	1110	
gtg gaa	ggc gtc cac tgt gac	agg tgc cgg cct ggc	aaa ttt gga 3504
Val Glu	Gly Val His Cys Asp	Arg Cys Arg Pro Gly	Lys Phe Gly
1115	1120	1125	
cta gat	gcc aag aac cca ctt	ggc tgc agc agc tgc	tac tgc ttt 3549
Leu Asp	Ala Lys Asn Pro Leu	Gly Cys Ser Ser Cys	Tyr Cys Phe
1130	1135	1140	
gga gtt	act agt caa tgc tct	gaa gca aag ggg ctg	atc cgt acg 3594
Gly Val	Thr Ser Gln Cys Ser	Glu Ala Lys Gly Leu	Ile Arg Thr

1145	1150	1155	
tgg gtg act ttg agt gat gaa	cag acc att cta cct	ctg gtg gat	3639
Trp Val Thr Leu Ser Asp Glu	Gln Thr Ile Leu Pro	Leu Val Asp	
1160	1165	1170	
gag gcc ctg cag cac acg act	acc aaa ggc att gct	ttc cag aaa	3684
Glu Ala Leu Gln His Thr Thr	Thr Lys Gly Ile Ala	Phe Gln Lys	
1175	1180	1185	
cca gag att gtt gca aag atg	gat gaa gtc agg caa	gag ctc cat	3729
Pro Glu Ile Val Ala Lys Met	Asp Glu Val Arg Gln	Glu Leu His	
1190	1195	1200	
ttg gaa cct ttt tac tgg aaa	ctc cca caa caa ttt	gaa ggg aaa	3774
Leu Glu Pro Phe Tyr Trp Lys	Leu Pro Gln Gln Phe	Glu Gly Lys	
1205	1210	1215	
aag ttg atg gct tat ggt ggc	aaa ctc aag tat gcc	atc tat ttt	3819
Lys Leu Met Ala Tyr Gly Gly	Lys Leu Lys Tyr Ala	Ile Tyr Phe	
1220	1225	1230	
gag gct cgg gat gag aca ggc	ttt gcc aca tat aaa	cct caa gtt	3864
Glu Ala Arg Asp Glu Thr Gly	Phe Ala Thr Tyr Lys	Pro Gln Val	
1235	1240	1245	
atc att cga ggt gga act cct	act cat gct aga att	att acc aga	3909
Ile Ile Arg Gly Gly Thr Pro	Thr His Ala Arg Ile	Ile Thr Arg	
1250	1255	1260	
cac atg gct gcc cct ctc att	ggc cag ttg aca cgg	cat gaa ata	3954
His Met Ala Ala Pro Leu Ile	Gly Gln Leu Thr Arg	His Glu Ile	
1265	1270	1275	
gaa atg aca gag aaa gaa tgg	aaa tat tat ggt gat	gat cct cga	3999
Glu Met Thr Glu Lys Glu Trp	Lys Tyr Tyr Gly Asp	Asp Pro Arg	

1280	1285	1290	
atc agt	aga act gtg acc cgt	gaa gac ttc ttg gat	ata cta tat 4044
Ile Ser	Arg Thr Val Thr Arg	Glu Asp Phe Leu Asp	Ile Leu Tyr
1295	1300	1305	
gat att	cac tat atc ctt atc	aag gct act tat gga	aac gtt gtg 4089
Asp Ile	His Tyr Ile Leu Ile	Lys Ala Thr Tyr Gly	Asn Val Val
1310	1315	1320	
aga caa	agc cgc att tct gaa	atc tcc atg gaa gta	gct gaa cca 4134
Arg Gln	Ser Arg Ile Ser Glu	Ile Ser Met Glu Val	Ala Glu Pro
1325	1330	1335	
gga cat	gta tta gca ggg agc	cca cca gca cac ttg	ata gaa aga 4179
Gly His	Val Leu Ala Gly Ser	Pro Pro Ala His Leu	Ile Glu Arg
1340	1345	1350	
tgc gat	tgc cct cct ggc tat	tct ggc ttg tct tgt	gag acg tgt 4224
Cys Asp	Cys Pro Pro Gly Tyr	Ser Gly Leu Ser Cys	Glu Thr Cys
1355	1360	1365	
gca cca	gga ttt tac cga ctt	cgt tct gaa cca ggt	ggg cgg act 4269
Ala Pro	Gly Phe Tyr Arg Leu	Arg Ser Glu Pro Gly	Gly Arg Thr
1370	1375	1380	
cct gga	cca acc tta ggg acc	tgt gtt ccc tgc caa	tgt aat gga 4314
Pro Gly	Pro Thr Leu Gly Thr	Cys Val Pro Cys Gln	Cys Asn Gly
1385	1390	1395	
cac agc	agt cag tgt gat cct	gag acc tca gta tgc	cag aat tgt 4359
His Ser	Ser Gln Cys Asp Pro	Glu Thr Ser Val Cys	Gln Asn Cys
1400	1405	1410	
cag cat	cac act gct ggt gac	ttc tgt gag cgc tgt	gcc ctt ggc 4404
Gln His	His Thr Ala Gly Asp	Phe Cys Glu Arg Cys	Ala Leu Gly

1415	1420	1425	
tac tat gga atc gtc agg gga ttg cca aat gac tgc caa cca tgt			4449
Tyr Tyr Gly Ile Val Arg Gly Leu Pro Asn Asp Cys Gln Pro Cys			
1430	1435	1440	
gct tgt cct ctg att tcg ccc agc aac aat ttc agc ccc tct tgt			4494
Ala Cys Pro Leu Ile Ser Pro Ser Asn Asn Phe Ser Pro Ser Cys			
1445	1450	1455	
gta ttg gaa ggt ctg gaa gat tac cgt tgc acc gcc tgc cca agg			4539
Val Leu Glu Gly Leu Glu Asp Tyr Arg Cys Thr Ala Cys Pro Arg			
1460	1465	1470	
ggc tat gaa gga cag tac tgt gaa agg tgt gcc cca ggc tat act			4584
Gly Tyr Glu Gly Gln Tyr Cys Glu Arg Cys Ala Pro Gly Tyr Thr			
1475	1480	1485	
ggc agc cca agc agc ccc gga ggc tcc tgc caa gaa tgt gag tgt			4629
Gly Ser Pro Ser Ser Pro Gly Gly Ser Cys Gln Glu Cys Glu Cys			
1490	1495	1500	
gac cct tat ggc tcc cta ccg gtt ccc tgt gac cgg gtc aca gga			4674
Asp Pro Tyr Gly Ser Leu Pro Val Pro Cys Asp Arg Val Thr Gly			
1505	1510	1515	
ctc tgc acg tgc cgc cct gga gcc aca gga agg aag tgt gat ggc			4719
Leu Cys Thr Cys Arg Pro Gly Ala Thr Gly Arg Lys Cys Asp Gly			
1520	1525	1530	
tgc gag cac tgg cat gca cgc gag ggt gca gag tgt gtc ttt tgt			4764
Cys Glu His Trp His Ala Arg Glu Gly Ala Glu Cys Val Phe Cys			
1535	1540	1545	
gga gac gag tgt aca ggc ctt ctt ctt ggt gac ctg gct cgt cta			4809
Gly Asp Glu Cys Thr Gly Leu Leu Leu Gly Asp Leu Ala Arg Leu			

1550	1555	1560	
gag cag atg acc atg aac atc aac ctc acg ggc cca ctg cct gct 4854			
Glu Gln Met Thr Met Asn Ile Asn Leu Thr Gly Pro Leu Pro Ala			
1565	1570	1575	
cca tat aaa att ctg tat ggt ctt gaa aat aca act cag gaa ctc 4899			
Pro Tyr Lys Ile Leu Tyr Gly Leu Glu Asn Thr Thr Gln Glu Leu			
1580	1585	1590	
aag cac ctg cta tca ccg caa cgg gca cca gag agg ctc att cag 4944			
Lys His Leu Leu Ser Pro Gln Arg Ala Pro Glu Arg Leu Ile Gln			
1595	1600	1605	
ttg gca gag ggc aac gtg aac aca ctt gtg atg gaa aca aat gag 4989			
Leu Ala Glu Gly Asn Val Asn Thr Leu Val Met Glu Thr Asn Glu			
1610	1615	1620	
ctg cta acc aga gca acc aaa gtg aca gca gat ggt gag caa aca 5034			
Leu Leu Thr Arg Ala Thr Lys Val Thr Ala Asp Gly Glu Gln Thr			
1625	1630	1635	
gga caa gat gct gag agg acc aac tcc aga gca gaa tcc ttg gaa 5079			
Gly Gln Asp Ala Glu Arg Thr Asn Ser Arg Ala Glu Ser Leu Glu			
1640	1645	1650	
gaa ttc att aaa ggg ctt gtc cag gat gct gaa gcc ata aat gaa 5124			
Glu Phe Ile Lys Gly Leu Val Gln Asp Ala Glu Ala Ile Asn Glu			
1655	1660	1665	
aaa gct gta aaa cta aat gaa acc tta gga aat caa gat aag aca 5169			
Lys Ala Val Lys Leu Asn Glu Thr Leu Gly Asn Gln Asp Lys Thr			
1670	1675	1680	
gca gag aga aac ttg gag gag ctt caa aag gaa atc gac cgg atg 5214			
Ala Glu Arg Asn Leu Glu Glu Leu Gln Lys Glu Ile Asp Arg Met			

1685	1690	1695	
ctg aag gaa ctg aga agt aaa gat ctt caa aca cag aag gaa gtt			5259
Leu Lys Glu Leu Arg Ser Lys Asp Leu Gln Thr Gln Lys Glu Val			
1700	1705	1710	
gct gag gat gag ctc gtg gca gca gaa ggc ctt ctg aag aga gta			5304
Ala Glu Asp Glu Leu Val Ala Ala Glu Gly Leu Leu Lys Arg Val			
1715	1720	1725	
aac aag ctg ttt gga gag ccc aga gcc cag aat gaa gat atg gaa			5349
Asn Lys Leu Phe Gly Glu Pro Arg Ala Gln Asn Glu Asp Met Glu			
1730	1735	1740	
aag gat ctc cag cag aaa ctg gca gag tac aag aac aaa ctt gat			5394
Lys Asp Leu Gln Gln Lys Leu Ala Glu Tyr Lys Asn Lys Leu Asp			
1745	1750	1755	
gat gct tgg gat cta ttg aga gaa gcc act gat aaa acc cga gat			5439
Asp Ala Trp Asp Leu Leu Arg Glu Ala Thr Asp Lys Thr Arg Asp			
1760	1765	1770	
gct aat cgt ttg tct gct gcc aat caa aaa aac atg acc ata ctg			5484
Ala Asn Arg Leu Ser Ala Ala Asn Gln Lys Asn Met Thr Ile Leu			
1775	1780	1785	
gag aca aag aag gag gct att gaa ggt agc aaa cga caa ata gag			5529
Glu Thr Lys Lys Glu Ala Ile Glu Gly Ser Lys Arg Gln Ile Glu			
1790	1795	1800	
aac act tta aag gaa ggc aat gac atc ctt gat gaa gcc aat caa			5574
Asn Thr Leu Lys Glu Gly Asn Asp Ile Leu Asp Glu Ala Asn Gln			
1805	1810	1815	
ctc tta ggt gaa atc aac tca gtc ata gat tat gtc gac gac att			5619
Leu Leu Gly Glu Ile Asn Ser Val Ile Asp Tyr Val Asp Asp Ile			

1820	1825	1830	
aaa act aag ttg cca cca atg tcc gag gag ctg agt gac aaa ata 5664			
Lys Thr Lys Leu Pro Pro Met Ser Glu Glu Leu Ser Asp Lys Ile			
1835	1840	1845	
gat gac ctc gcc cag gaa ata aag gac aga agg ctt gct gag aag 5709			
Asp Asp Leu Ala Gln Glu Ile Lys Asp Arg Arg Leu Ala Glu Lys			
1850	1855	1860	
gtg ttc cag gct gag agc cat gct gct cag ctg aac gac tcg tct 5754			
Val Phe Gln Ala Glu Ser His Ala Ala Gln Leu Asn Asp Ser Ser			
1865	1870	1875	
gct gta ctt gat gga atc ctg gat gag gct aag aac atc tct ttc 5799			
Ala Val Leu Asp Gly Ile Leu Asp Glu Ala Lys Asn Ile Ser Phe			
1880	1885	1890	
aat gcc acg gca gcc ttc aga gct tac agt aat att aaa gac tac 5844			
Asn Ala Thr Ala Ala Phe Arg Ala Tyr Ser Asn Ile Lys Asp Tyr			
1895	1900	1905	
att gat gaa gct gag aaa gtg gcc aga gaa gcc aaa gag ctt gcc 5889			
Ile Asp Glu Ala Glu Lys Val Ala Arg Glu Ala Lys Glu Leu Ala			
1910	1915	1920	
caa ggg gct aca aaa ctg gca aca agt cct cag ggc tta tta aaa 5934			
Gln Gly Ala Thr Lys Leu Ala Thr Ser Pro Gln Gly Leu Leu Lys			
1925	1930	1935	
gaa gat gcc aaa ggc tcc ctt cag aaa agc ttc agg atc ctc aat 5979			
Glu Asp Ala Lys Gly Ser Leu Gln Lys Ser Phe Arg Ile Leu Asn			
1940	1945	1950	
gaa gcc aag aag cta gca aac gat gtg aaa gga aat cac aat gat 6024			
Glu Ala Lys Lys Leu Ala Asn Asp Val Lys Gly Asn His Asn Asp			

1955	1960	1965	
cta aat gac ctg aaa acc agg tta gaa act gct gac ctt aga aac			6069
Leu Asn Asp Leu Lys Thr Arg Leu Glu Thr Ala Asp Leu Arg Asn			
1970	1975	1980	
agt gga ctt cta gga gct cta aat gac acc atg gac aag tta tca			6114
Ser Gly Leu Leu Gly Ala Leu Asn Asp Thr Met Asp Lys Leu Ser			
1985	1990	1995	
gcc att aca aat gac acg gct gct aaa ctg cag gct gtc aaa gag			6159
Ala Ile Thr Asn Asp Thr Ala Ala Lys Leu Gln Ala Val Lys Glu			
2000	2005	2010	
aaa gcc aga gaa gcc aat gac aca gca aaa gct gtc ctg gcc cag			6204
Lys Ala Arg Glu Ala Asn Asp Thr Ala Lys Ala Val Leu Ala Gln			
2015	2020	2025	
gtt aag gac ctg cat cag aac cta gat ggc ctg aag caa aac tac			6249
Val Lys Asp Leu His Gln Asn Leu Asp Gly Leu Lys Gln Asn Tyr			
2030	2035	2040	
aat aaa ctg gca gac agc gtg gcc aaa acg aac gct gtg gtg aaa			6294
Asn Lys Leu Ala Asp Ser Val Ala Lys Thr Asn Ala Val Val Lys			
2045	2050	2055	
gat cct tcc aaa aac aaa atc att gca gat gca ggc act tcc gtg			6339
Asp Pro Ser Lys Asn Lys Ile Ile Ala Asp Ala Gly Thr Ser Val			
2060	2065	2070	
aga aat cta gaa cag gaa gct gac cgg cta atc gac aaa ctc aag			6384
Arg Asn Leu Glu Gln Glu Ala Asp Arg Leu Ile Asp Lys Leu Lys			
2075	2080	2085	
ccc atc aag gag ctt gag gac aac cta aag aaa aac att tct gaa			6429
Pro Ile Lys Glu Leu Glu Asp Asn Leu Lys Lys Asn Ile Ser Glu			

2090	2095	2100	
ata aag gaa ctg atc aac caa gct cgg aaa caa gct aac tct atc 6474			
Ile Lys Glu Leu Ile Asn Gln Ala Arg Lys Gln Ala Asn Ser Ile			
2105	2110	2115	
aaa gta tct gtt tct tcg gga ggt gac tgt gtt cgg aca tac agg 6519			
Lys Val Ser Val Ser Ser Gly Gly Asp Cys Val Arg Thr Tyr Arg			
2120	2125	2130	
cca gaa atc aag aaa gga agc tac aat aac atc gtt gtc cat gtc 6564			
Pro Glu Ile Lys Lys Gly Ser Tyr Asn Asn Ile Val Val His Val			
2135	2140	2145	
aag acc gct gtt gcc gac aac ctc ctt ttt tat ctt gga agt gcc 6609			
Lys Thr Ala Val Ala Asp Asn Leu Leu Phe Tyr Leu Gly Ser Ala			
2150	2155	2160	
aaa ttt att gac ttt ctt gct ata gaa atg cgc aaa ggc aaa gtc 6654			
Lys Phe Ile Asp Phe Leu Ala Ile Glu Met Arg Lys Gly Lys Val			
2165	2170	2175	
agc ttc ctc tgg att gtt ggc tct gga gtt ggc cga gta ggg ttt 6699			
Ser Phe Leu Trp Ile Val Gly Ser Gly Val Gly Arg Val Gly Phe			
2180	2185	2190	
cca gac ttg acc atc gac gac tcc tat tgg tac cgt att gaa gca 6744			
Pro Asp Leu Thr Ile Asp Asp Ser Tyr Trp Tyr Arg Ile Glu Ala			
2195	2200	2205	
tca aga acg gga aga aat gga tct att tct gtg aga gct tta gat 6789			
Ser Arg Thr Gly Arg Asn Gly Ser Ile Ser Val Arg Ala Leu Asp			
2210	2215	2220	
gga ccc aaa gcc agt atg gta ccc agc acc tac cat tca gtg tct 6834			
Gly Pro Lys Ala Ser Met Val Pro Ser Thr Tyr His Ser Val Ser			

2225	2230	2235	
cct ccc	ggg tat act atc cta	gat gtg gat gca aat	gca atg ctg 6879
Pro Pro	Gly Tyr Thr Ile Leu	Asp Val Asp Ala Asn	Ala Met Leu
2240	2245	2250	
ttt gtt	ggg ggc ctg acc gga	aaa ata aag aag gcc	gat gct gta 6924
Phe Val	Gly Gly Leu Thr Gly	Lys Ile Lys Lys Ala	Asp Ala Val
2255	2260	2265	
cgt gtg	atc acc ttc acc ggc	tgt atg gga gaa aca	tac ttt gac 6969
Arg Val	Ile Thr Phe Thr Gly	Cys Met Gly Glu Thr	Tyr Phe Asp
2270	2275	2280	
aac aaa	cct ata ggt tta tgg	aac ttc cgg gag aaa	gaa ggc gac 7014
Asn Lys	Pro Ile Gly Leu Trp	Asn Phe Arg Glu Lys	Glu Gly Asp
2285	2290	2295	
tgt aag	gga tgt act gtc agc	cca caa gtg gaa gat	agt gag ggg 7059
Cys Lys	Gly Cys Thr Val Ser	Pro Gln Val Glu Asp	Ser Glu Gly
2300	2305	2310	
act att	cag ttt gat ggt gaa	ggc tat gca tta gtg	agc cgg ccc 7104
Thr Ile	Gln Phe Asp Gly Glu	Gly Tyr Ala Leu Val	Ser Arg Pro
2315	2320	2325	
atc cgc	tgg tac ccc aac atc	tcc aca gtc atg ttc	aag ttc cgg 7149
Ile Arg	Trp Tyr Pro Asn Ile	Ser Thr Val Met Phe	Lys Phe Arg
2330	2335	2340	
aca ttt	tca tca agt gct ctc	ctg atg tat ctt gcc	aca cga gac 7194
Thr Phe	Ser Ser Ser Ala Leu	Leu Met Tyr Leu Ala	Thr Arg Asp
2345	2350	2355	
ctg aaa	gat ttc atg agt gta	gag ctc agt gat gga	cat gtg aaa 7239
Leu Lys	Asp Phe Met Ser Val	Glu Leu Ser Asp Gly	His Val Lys

2360	2365	2370	
gtc agc	tat gac ctg ggc tca	gga atg act tcc gtt	gtc agc aat 7284
Val Ser	Tyr Asp Leu Gly Ser	Gly Met Thr Ser Val	Val Ser Asn
2375	2380	2385	
caa aac	cat aat gat ggg aaa	tgg aaa gca ttc acg	ctg tcg cgg 7329
Gln Asn	His Asn Asp Gly Lys	Trp Lys Ala Phe Thr	Leu Ser Arg
2390	2395	2400	
att cag	aaa caa gcc aac ata	tcg att gtc gac atc	gat tct aac 7374
Ile Gln	Lys Gln Ala Asn Ile	Ser Ile Val Asp Ile	Asp Ser Asn
2405	2410	2415	
cag gag	gag aat gta gct act	tca tct tct gga aac	aac ttt ggt 7419
Gln Glu	Glu Asn Val Ala Thr	Ser Ser Ser Gly Asn	Asn Phe Gly
2420	2425	2430	
ctt gac	ttg aaa gca gat gac	aaa ata tat ttt ggt	ggc ctg cca 7464
Leu Asp	Leu Lys Ala Asp Asp	Lys Ile Tyr Phe Gly	Gly Leu Pro
2435	2440	2445	
act ctg	aga aac ttg agt atg	aaa gca agg cca gaa	gtc aat gtg 7509
Thr Leu	Arg Asn Leu Ser Met	Lys Ala Arg Pro Glu	Val Asn Val
2450	2455	2460	
aag aaa	tac tcc ggc tgc ctc	aaa gat att gaa att	tca aga aca 7554
Lys Lys	Tyr Ser Gly Cys Leu	Lys Asp Ile Glu Ile	Ser Arg Thr
2465	2470	2475	
cct tac	aat ata ctc agc agc	cct gat tat gtt ggt	gtg acc aaa 7599
Pro Tyr	Asn Ile Leu Ser Ser	Pro Asp Tyr Val Gly	Val Thr Lys
2480	2485	2490	
ggc tgt	tca ctg gag aat gtt	aat aca gtt agt ttc	ccc aag cct 7644
Gly Cys	Ser Leu Glu Asn Val	Asn Thr Val Ser Phe	Pro Lys Pro

2495	2500	2505	
ggt ttt gtg gag ctt gcc gct gtg tct att gat gtt gga aca gaa 7689			
Gly Phe Val Glu Leu Ala Ala Val Ser Ile Asp Val Gly Thr Glu			
2510	2515	2520	
atc aat ctg tcc ttt agt acc agg aac gag tct ggg atc att ctc 7734			
Ile Asn Leu Ser Phe Ser Thr Arg Asn Glu Ser Gly Ile Ile Leu			
2525	2530	2535	
ttg gga agt gga ggg aca ctc aca cca ccc agg aga aaa cgg aga 7779			
Leu Gly Ser Gly Gly Thr Leu Thr Pro Pro Arg Arg Lys Arg Arg			
2540	2545	2550	
caa acc aca cag gct tat tat gcc ata ttc ctc aac aag ggc cgc 7824			
Gln Thr Thr Gln Ala Tyr Tyr Ala Ile Phe Leu Asn Lys Gly Arg			
2555	2560	2565	
ttg gaa gtg cat ctc tcc tcg ggg aca cgg aca atg agg aaa att 7869			
Leu Glu Val His Leu Ser Ser Gly Thr Arg Thr Met Arg Lys Ile			
2570	2575	2580	
gtc atc aaa ccg gag cca aat ttg ttt cat gat ggg aga gaa cat 7914			
Val Ile Lys Pro Glu Pro Asn Leu Phe His Asp Gly Arg Glu His			
2585	2590	2595	
tct gtc cac gta gaa aga acc aga ggc atc ttc act gtt caa att 7959			
Ser Val His Val Glu Arg Thr Arg Gly Ile Phe Thr Val Gln Ile			
2600	2605	2610	
gat gaa gac aga aga cat atc caa aac ctg aca gag gaa cag ccc 8004			
Asp Glu Asp Arg Arg His Ile Gln Asn Leu Thr Glu Glu Gln Pro			
2615	2620	2625	
atc gaa gtg aaa aag ctc ttt gtc ggg ggt gct cct cct gaa ttt 8049			
Ile Glu Val Lys Lys Leu Phe Val Gly Gly Ala Pro Pro Glu Phe			

2630	2635	2640	
cag ccc	tcc cca ctc agg aat	att ccg gcc ttt caa	ggc tgt gtg 8094
Gln Pro	Ser Pro Leu Arg Asn	Ile Pro Ala Phe Gln	Gly Cys Val
2645	2650	2655	
tgg aac	ctt gtt att aac tcc	atc ccc atg gac ttt	gcg cag cct 8139
Trp Asn	Leu Val Ile Asn Ser	Ile Pro Met Asp Phe	Ala Gln Pro
2660	2665	2670	
ata gcc	ttc aaa aat gcc gac	att ggt cgc tgt acc	tat caa aag 8184
Ile Ala	Phe Lys Asn Ala Asp	Ile Gly Arg Cys Thr	Tyr Gln Lys
2675	2680	2685	
ccc cgg	gaa gat gag agt gaa	gca gtt cca gct gaa	gtt att gtc 8229
Pro Arg	Glu Asp Glu Ser Glu	Ala Val Pro Ala Glu	Val Ile Val
2690	2695	2700	
cag cct	cag tcg gtg ccc acc	cct gcc ttc cct ttc	cca gtc ccc 8274
Gln Pro	Gln Ser Val Pro Thr	Pro Ala Phe Pro Phe	Pro Val Pro
2705	2710	2715	
acc atg	gtg cat ggc cct tgt	gtt gca gaa tca gaa	cca gct ctt 8319
Thr Met	Val His Gly Pro Cys	Val Ala Glu Ser Glu	Pro Ala Leu
2720	2725	2730	
ctg aca	ggg agc aag cag ttt	ggg ctt tcc aga aac	agc cac att 8364
Leu Thr	Gly Ser Lys Gln Phe	Gly Leu Ser Arg Asn	Ser His Ile
2735	2740	2745	
gca att	gtc ttt gat gac acc	aaa gtt aaa aac cgc	ctc acc att 8409
Ala Ile	Val Phe Asp Asp Thr	Lys Val Lys Asn Arg	Leu Thr Ile
2750	2755	2760	
gag ctg	gag gta cga act gaa	gct gaa tca ggc ttg	ctc ttc tac 8454
Glu Leu	Glu Val Arg Thr Glu	Ala Glu Ser Gly Leu	Leu Phe Tyr

2765	2770	2775	
atg ggt cgg atc aat cat gct gat ttt ggt act gtt cag ctg agg			8499
Met Gly Arg Ile Asn His Ala Asp Phe Gly Thr Val Gln Leu Arg			
2780	2785	2790	
aat ggg ttc ccg ttc ttc agt tat gat ttg ggg agt ggg agc acc			8544
Asn Gly Phe Pro Phe Phe Ser Tyr Asp Leu Gly Ser Gly Ser Thr			
2795	2800	2805	
aga acc atg atc ccc aca aaa atc aac gat ggt cag tgg cac aag			8589
Arg Thr Met Ile Pro Thr Lys Ile Asn Asp Gly Gln Trp His Lys			
2810	2815	2820	
att aag att gtg aga gtg aag cag gag gga att ctt tat gtg gat			8634
Ile Lys Ile Val Arg Val Lys Gln Glu Gly Ile Leu Tyr Val Asp			
2825	2830	2835	
gat gcc tcc agc caa acc atc agt ccc aag aaa gcc gac atc ctg			8679
Asp Ala Ser Ser Gln Thr Ile Ser Pro Lys Lys Ala Asp Ile Leu			
2840	2845	2850	
gat gtc ggg ggg att ctg tat gtc ggt gga ttg ccg atc aac tat			8724
Asp Val Gly Gly Ile Leu Tyr Val Gly Gly Leu Pro Ile Asn Tyr			
2855	2860	2865	
acc aca cgc aga att ggt cca gtg act tac agc ctg gat ggc tgt			8769
Thr Thr Arg Arg Ile Gly Pro Val Thr Tyr Ser Leu Asp Gly Cys			
2870	2875	2880	
gtt agg aat ctt cac atg gaa caa gcc cct gtt gat ctg gac cag			8814
Val Arg Asn Leu His Met Glu Gln Ala Pro Val Asp Leu Asp Gln			
2885	2890	2895	
cct acc tcc agc ttt cac gtt ggg aca tgc ttt gcg aat gca gag			8859
Pro Thr Ser Ser Phe His Val Gly Thr Cys Phe Ala Asn Ala Glu			

2900	2905	2910	
agt ggg act tac ttt gat gga acc ggt ttt ggt aaa gca gtt ggt			8904
Ser Gly Thr Tyr Phe Asp Gly Thr Gly Phe Gly Lys Ala Val Gly			
2915	2920	2925	
ggg ttc atc gtt gga ttg gac ctt ctt gtg gaa ttt gaa ttc cgt			8949
Gly Phe Ile Val Gly Leu Asp Leu Leu Val Glu Phe Glu Phe Arg			
2930	2935	2940	
acc aca aga ccc act ggg gtc ctc ctg ggg atc agc agt cag aag			8994
Thr Thr Arg Pro Thr Gly Val Leu Leu Gly Ile Ser Ser Gln Lys			
2945	2950	2955	
atg gat gga atg ggt att gaa atg atc gac gag aag ctt atg ttc			9039
Met Asp Gly Met Gly Ile Glu Met Ile Asp Glu Lys Leu Met Phe			
2960	2965	2970	
cac gtg gat aat ggc gct ggc cga ttc act gca att tat gat gct			9084
His Val Asp Asn Gly Ala Gly Arg Phe Thr Ala Ile Tyr Asp Ala			
2975	2980	2985	
gag atc cca ggc cac atg tgc aat gga cag tgg tat aaa gtc act			9129
Glu Ile Pro Gly His Met Cys Asn Gly Gln Trp Tyr Lys Val Thr			
2990	2995	3000	
gcc aag aag atc aaa aac cgt ctt gag ctg gtg gta gat ggg aac			9174
Ala Lys Lys Ile Lys Asn Arg Leu Glu Leu Val Val Asp Gly Asn			
3005	3010	3015	
cag gtg gat gcc cag agc cca aac tca gca tcg aca tca gct gat			9219
Gln Val Asp Ala Gln Ser Pro Asn Ser Ala Ser Thr Ser Ala Asp			
3020	3025	3030	
aca aac gac cct gtt ttc gtt ggc ggt ttc cca ggt ggc ctc aat			9264
Thr Asn Asp Pro Val Phe Val Gly Gly Phe Pro Gly Gly Leu Asn			

3035 3040 3045
 cag ttg ggc ctg acc acc aac att agg ttc cga ggc tgc atc cga 9309
 Gln Phe Gly Leu Thr Thr Asn Ile Arg Phe Arg Gly Cys Ile Arg
 3050 3055 3060
 tct ctg aag ctc acc aaa ggc act gca aac cgc tgg agg tta att 9354
 Ser Leu Lys Leu Thr Lys Gly Thr Ala Asn Arg Trp Arg Leu Ile
 3065 3070 3075
 ttg cca agg ccc tgg aac tgaggggtgt tcaacctgta tcatgccga 9402
 Leu Pro Arg Pro Trp Asn
 3080
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 aacaatatac actcctatca tattaataaa actaatgtgc agcggccgc 9511

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 <212> PRT
 <213> Mus musculus

 <400> 6

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 1 5 10 15

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 20 25 30

 Gly Glu Lys Gly Pro Glu Met Tyr Cys Lys Leu Val Glu His Val Pro
 35 40 45

Gly Gln Pro Val Arg Asn Pro Gln Cys Arg Ile Cys Asn Gln Asn Ser
 50 55 60

Ser Asn Pro Tyr Gln Arg His Pro Ile Thr Asn Ala Ile Asp Gly Lys
 65 70 75 80

Asn Thr Trp Trp Gln Ser Pro Ser Ile Lys Asn Gly Val Glu Tyr His
 85 90 95

Tyr Val Thr Ile Thr Leu Asp Leu Gln Gln Val Phe Gln Ile Ala Tyr
 100 105 110

Val Ile Val Lys Ala Ala Asn Ser Pro Arg Pro Gly Asn Trp Ile Leu
 115 120 125

Glu Arg Ser Leu Asp Asp Val Glu Tyr Lys Pro Trp Gln Tyr His Ala
 130 135 140

Val Thr Asp Thr Glu Cys Leu Thr Leu Tyr Asn Ile Tyr Pro Arg Thr
 145 150 155 160

Gly Pro Pro Ser Tyr Ala Lys Asp Asp Glu Val Ile Cys Thr Ser Phe
 165 170 175

Tyr Ser Lys Ile His Pro Leu Glu Asn Gly Glu Ile His Ile Ser Leu
 180 185 190

Ile Asn Gly Arg Pro Ser Ala Asp Asp Pro Ser Pro Glu Leu Leu Glu
 195 200 205

Phe Thr Ser Ala Arg Tyr Ile Arg Leu Arg Phe Gln Arg Ile Arg Thr
 210 215 220

Leu Asn Ala Asp Leu Met Met Phe Ala His Lys Asp Pro Arg Glu Ile
 225 230 235 240

Asp Pro Ile Val Thr Arg Arg Tyr Tyr Tyr Ser Val Lys Asp Ile Ser
 245 250 255

Val Gly Gly Met Cys Ile Cys Tyr Gly His Ala Arg Ala Cys Pro Leu
 260 265 270

Asp Pro Ala Thr Asn Lys Ser Arg Cys Glu Cys Glu His Asn Thr Cys
 275 280 285

Gly Glu Ser Cys Asp Arg Cys Cys Pro Gly Phe His Gln Lys Pro Trp
 290 295 300

Arg Ala Gly Thr Phe Leu Thr Lys Ser Glu Cys Glu Ala Cys Asn Cys
 305 310 315 320

His Gly Lys Ala Glu Glu Cys Tyr Tyr Asp Glu Thr Val Ala Ser Arg
 325 330 335

Asn Leu Ser Leu Asn Ile His Gly Lys Tyr Ile Gly Gly Gly Val Cys
 340 345 350

Ile Asn Cys Thr His Asn Thr Ala Gly Ile Asn Cys Glu Thr Cys Val
 355 360 365

Asp Gly Phe Phe Arg Pro Lys Gly Val Ser Pro Asn Tyr Pro Arg Pro
 370 375 380

Cys Gln Pro Cys His Cys Asp Pro Thr Gly Ser Leu Ser Glu Val Cys
 385 390 395 400

Val Lys Asp Glu Lys Tyr Ala Gln Arg Gly Leu Lys Pro Gly Ser Cys
 405 410 415

His Cys Lys Thr Gly Phe Gly Gly Val Asn Cys Asp Arg Cys Val Arg
 420 425 430

Gly Tyr His Gly Tyr Pro Asp Cys Gln Pro Cys Asn Cys Ser Gly Leu
 435 440 445

Gly Ser Thr Asn Glu Asp Pro Cys Val Gly Pro Cys Ser Cys Lys Glu
 450 455 460

Asn Val Glu Gly Glu Asp Cys Ser Arg Cys Lys Ser Gly Phe Phe Asn
 465 470 475 480

Leu Gln Glu Asp Asn Gln Lys Gly Cys Glu Glu Cys Phe Cys Ser Gly
485 490 495

Val Ser Asn Arg Cys Gln Ser Ser Tyr Trp Thr Tyr Gly Asn Ile Gln
500 505 510

Asp Met Arg Gly Trp Tyr Leu Thr Asp Leu Ser Gly Arg Ile Arg Met
515 520 525

Ala Pro Gln Leu Asp Asn Pro Asp Ser Pro Gln Gln Ile Ser Ile Ser
530 535 540

Asn Ser Glu Ala Arg Lys Ser Leu Leu Asp Gly Tyr Tyr Trp Ser Ala
545 550 555 560

Pro Pro Pro Tyr Leu Gly Asn Arg Leu Pro Ala Val Gly Gly Gln Leu
565 570 575

Ser Phe Thr Ile Ser Tyr Asp Leu Glu Glu Glu Asp Asp Thr Glu
580 585 590

Lys Leu Leu Gln Leu Met Ile Ile Phe Glu Gly Asn Asp Leu Arg Ile
595 600 605

Ser Thr Ala Tyr Lys Glu Val Tyr Leu Glu Pro Ser Glu Glu His Val
610 615 620

Glu Glu Val Ser Leu Lys Glu Glu Ala Phe Thr Ile His Gly Thr Asn
 625 630 635 640

Leu Pro Val Thr Arg Lys Asp Phe Met Ile Val Leu Thr Asn Leu Gly
 645 650 655

Glu Ile Leu Ile Gln Ile Thr Tyr Asn Leu Gly Met Asp Ala Ile Phe
 660 665 670

Arg Leu Ser Ser Val Asn Leu Glu Ser Pro Val Pro Tyr Pro Thr Asp
 675 680 685

Arg Arg Ile Ala Thr Asp Val Glu Val Cys Gln Cys Pro Pro Gly Tyr
 690 695 700

Ser Gly Ser Ser Cys Glu Thr Cys Trp Pro Arg His Arg Arg Val Asn
 705 710 715 720

Gly Thr Ile Phe Gly Gly Ile Cys Glu Pro Cys Gln Cys Phe Ala His
 725 730 735

Ala Glu Ala Cys Asp Asp Ile Thr Gly Glu Cys Leu Asn Cys Lys Asp
 740 745 750

His Thr Gly Gly Pro Tyr Cys Asn Glu Cys Leu Pro Gly Phe Tyr Gly
 755 760 765

Asp Pro Thr Arg Gly Ser Pro Glu Asp Cys Gln Pro Cys Ala Cys Pro
 770 775 780

Leu Asn Ile Pro Ser Asn Asn Phe Ser Pro Thr Cys His Leu Asp Arg
 785 790 795 800

Ser Leu Gly Leu Ile Cys Asp Glu Cys Pro Ile Gly Tyr Thr Gly Pro
 805 810 815

Arg Cys Glu Arg Cys Ala Glu Gly Tyr Phe Gly Gln Pro Ser Val Pro
 820 825 830

Gly Gly Ser Cys Gln Pro Cys Gln Cys Asn Asp Asn Leu Asp Tyr Ser
 835 840 845

Ile Pro Gly Ser Cys Asp Ser Leu Ser Gly Ser Cys Leu Ile Cys Lys
 850 855 860

Pro Gly Thr Thr Gly Arg Tyr Cys Glu Leu Cys Ala Asp Gly Tyr Phe
 865 870 875 880

Gly Asp Ala Val Asn Thr Lys Asn Cys Gln Pro Cys Arg Cys Asp Ile
 885 890 895

Asn Gly Ser Phe Ser Glu Asp Cys His Thr Arg Thr Gly Gln Cys Glu
 900 905 910

Cys Arg Pro Asn Val Gln Gly Arg His Cys Asp Glu Cys Lys Pro Glu
 915 920 925

Thr Phe Gly Leu Gln Leu Gly Arg Gly Cys Leu Pro Cys Asn Cys Asn
 930 935 940

Ser Phe Gly Ser Lys Ser Phe Asp Cys Glu Ala Ser Gly Gln Cys Trp
 945 950 955 960

Cys Gln Pro Gly Val Ala Gly Lys Lys Cys Asp Arg Cys Ala His Gly
 965 970 975

Tyr Phe Asn Phe Gln Glu Gly Gly Cys Ile Ala Cys Asp Cys Ser His
 980 985 990

Leu Gly Asn Asn Cys Asp Pro Lys Thr Gly Gln Cys Ile Cys Pro Pro
 995 1000 1005

Asn Thr Thr Gly Glu Lys Cys Ser Glu Cys Leu Pro Asn Thr Trp
 1010 1015 1020

Gly His Ser Ile Val Thr Gly Cys Lys Val Cys Asn Cys Ser Thr
 1025 1030 1035

Val Gly Ser Leu Ala Ser Gln Cys Asn Val Asn Thr Gly Gln Cys

1040	1045	1050
Ser Cys His Pro Lys Phe Ser	Gly Met Lys Cys Ser	Glu Cys Ser
1055	1060	1065
Arg Gly His Trp Asn Tyr Pro	Leu Cys Thr Leu Cys	Asp Cys Phe
1070	1075	1080
Leu Pro Gly Thr Asp Ala Thr	Thr Cys Asp Leu Glu	Thr Arg Lys
1085	1090	1095
Cys Ser Cys Ser Asp Gln Thr	Gly Gln Cys Ser Cys	Lys Val Asn
1100	1105	1110
Val Glu Gly Val His Cys Asp	Arg Cys Arg Pro Gly	Lys Phe Gly
1115	1120	1125
Leu Asp Ala Lys Asn Pro Leu	Gly Cys Ser Ser Cys	Tyr Cys Phe
1130	1135	1140
Gly Val Thr Ser Gln Cys Ser	Glu Ala Lys Gly Leu	Ile Arg Thr
1145	1150	1155
Trp Val Thr Leu Ser Asp Glu	Gln Thr Ile Leu Pro	Leu Val Asp
1160	1165	1170
Glu Ala Leu Gln His Thr Thr	Thr Lys Gly Ile Ala	Phe Gln Lys

1175	1180	1185
Pro Glu Ile Val Ala Lys Met Asp Glu Val Arg Gln Glu Leu His		
1190	1195	1200
Leu Glu Pro Phe Tyr Trp Lys Leu Pro Gln Gln Phe Glu Gly Lys		
1205	1210	1215
Lys Leu Met Ala Tyr Gly Gly Lys Leu Lys Tyr Ala Ile Tyr Phe		
1220	1225	1230
Glu Ala Arg Asp Glu Thr Gly Phe Ala Thr Tyr Lys Pro Gln Val		
1235	1240	1245
Ile Ile Arg Gly Gly Thr Pro Thr His Ala Arg Ile Ile Thr Arg		
1250	1255	1260
His Met Ala Ala Pro Leu Ile Gly Gln Leu Thr Arg His Glu Ile		
1265	1270	1275
Glu Met Thr Glu Lys Glu Trp Lys Tyr Tyr Gly Asp Asp Pro Arg		
1280	1285	1290
Ile Ser Arg Thr Val Thr Arg Glu Asp Phe Leu Asp Ile Leu Tyr		
1295	1300	1305
Asp Ile His Tyr Ile Leu Ile Lys Ala Thr Tyr Gly Asn Val Val		

1310

1315

1320

Arg Gln Ser Arg Ile Ser Glu Ile Ser Met Glu Val Ala Glu Pro

1325

1330

1335

Gly His Val Leu Ala Gly Ser Pro Pro Ala His Leu Ile Glu Arg

1340

1345

1350

Cys Asp Cys Pro Pro Gly Tyr Ser Gly Leu Ser Cys Glu Thr Cys

1355

1360

1365

Ala Pro Gly Phe Tyr Arg Leu Arg Ser Glu Pro Gly Gly Arg Thr

1370

1375

1380

Pro Gly Pro Thr Leu Gly Thr Cys Val Pro Cys Gln Cys Asn Gly

1385

1390

1395

His Ser Ser Gln Cys Asp Pro Glu Thr Ser Val Cys Gln Asn Cys

1400

1405

1410

Gln His His Thr Ala Gly Asp Phe Cys Glu Arg Cys Ala Leu Gly

1415

1420

1425

Tyr Tyr Gly Ile Val Arg Gly Leu Pro Asn Asp Cys Gln Pro Cys

1430

1435

1440

Ala Cys Pro Leu Ile Ser Pro Ser Asn Asn Phe Ser Pro Ser Cys

1445	1450	1455
Val Leu	Glu Gly Leu Glu Asp	Tyr Arg Cys Thr Ala Cys Pro Arg
1460	1465	1470
Gly Tyr	Glu Gly Gln Tyr Cys	Glu Arg Cys Ala Pro Gly Tyr Thr
1475	1480	1485
Gly Ser	Pro Ser Ser Pro Gly	Gly Ser Cys Gln Glu Cys Glu Cys
1490	1495	1500
Asp Pro	Tyr Gly Ser Leu Pro	Val Pro Cys Asp Arg Val Thr Gly
1505	1510	1515
Leu Cys	Thr Cys Arg Pro Gly	Ala Thr Gly Arg Lys Cys Asp Gly
1520	1525	1530
Cys Glu	His Trp His Ala Arg	Glu Gly Ala Glu Cys Val Phe Cys
1535	1540	1545
Gly Asp	Glu Cys Thr Gly Leu	Leu Leu Gly Asp Leu Ala Arg Leu
1550	1555	1560
Glu Gln	Met Thr Met Asn Ile	Asn Leu Thr Gly Pro Leu Pro Ala
1565	1570	1575
Pro Tyr	Lys Ile Leu Tyr Gly	Leu Glu Asn Thr Thr Gln Glu Leu

1580

1585

1590

Lys His Leu Leu Ser Pro Gln Arg Ala Pro Glu Arg Leu Ile Gln
 1595 1600 1605

Leu Ala Glu Gly Asn Val Asn Thr Leu Val Met Glu Thr Asn Glu
 1610 1615 1620

Leu Leu Thr Arg Ala Thr Lys Val Thr Ala Asp Gly Glu Gln Thr
 1625 1630 1635

Gly Gln Asp Ala Glu Arg Thr Asn Ser Arg Ala Glu Ser Leu Glu
 1640 1645 1650

Glu Phe Ile Lys Gly Leu Val Gln Asp Ala Glu Ala Ile Asn Glu
 1655 1660 1665

Lys Ala Val Lys Leu Asn Glu Thr Leu Gly Asn Gln Asp Lys Thr
 1670 1675 1680

Ala Glu Arg Asn Leu Glu Glu Leu Gln Lys Glu Ile Asp Arg Met
 1685 1690 1695

Leu Lys Glu Leu Arg Ser Lys Asp Leu Gln Thr Gln Lys Glu Val
 1700 1705 1710

Ala Glu Asp Glu Leu Val Ala Ala Glu Gly Leu Leu Lys Arg Val

1715	1720	1725
Asn Lys	Leu Phe Gly Glu Pro	Arg Ala Gln Asn Glu
1730	1735	1740
Asp Met Glu		
Lys Asp	Leu Gln Gln Lys Leu	Ala Glu Tyr Lys Asn
1745	1750	1755
Lys Leu Asp		
Asp Ala	Trp Asp Leu Leu Arg	Glu Ala Thr Asp Lys
1760	1765	1770
Thr Arg Asp		
Ala Asn	Arg Leu Ser Ala Ala	Asn Gln Lys Asn Met
1775	1780	1785
Thr Ile Leu		
Glu Thr	Lys Lys Glu Ala Ile	Glu Gly Ser Lys Arg
1790	1795	1800
Gln Ile Glu		
Asn Thr	Leu Lys Glu Gly Asn	Asp Ile Leu Asp Glu
1805	1810	1815
Ala Asn Gln		
Leu Leu	Gly Glu Ile Asn Ser	Val Ile Asp Tyr Val
1820	1825	1830
Asp Asp Ile		
Lys Thr	Lys Leu Pro Pro Met	Ser Glu Glu Leu Ser
1835	1840	1845
Asp Lys Ile		
Asp Asp	Leu Ala Gln Glu Ile	Lys Asp Arg Arg Leu
		Ala Glu Lys

1850	1855	1860
Val Phe	Gln Ala Glu Ser His	Ala Ala Gln Leu Asn Asp Ser Ser
1865	1870	1875
Ala Val	Leu Asp Gly Ile Leu	Asp Glu Ala Lys Asn Ile Ser Phe
1880	1885	1890
Asn Ala	Thr Ala Ala Phe Arg	Ala Tyr Ser Asn Ile Lys Asp Tyr
1895	1900	1905
Ile Asp	Glu Ala Glu Lys Val	Ala Arg Glu Ala Lys Glu Leu Ala
1910	1915	1920
Gln Gly	Ala Thr Lys Leu Ala	Thr Ser Pro Gln Gly Leu Leu Lys
1925	1930	1935
Glu Asp	Ala Lys Gly Ser Leu	Gln Lys Ser Phe Arg Ile Leu Asn
1940	1945	1950
Glu Ala	Lys Lys Leu Ala Asn	Asp Val Lys Gly Asn His Asn Asp
1955	1960	1965
Leu Asn	Asp Leu Lys Thr Arg	Leu Glu Thr Ala Asp Leu Arg Asn
1970	1975	1980
Ser Gly	Leu Leu Gly Ala Leu	Asn Asp Thr Met Asp Lys Leu Ser

1985

1990

1995

Ala Ile Thr Asn Asp Thr Ala Ala Lys Leu Gln Ala Val Lys Glu
 2000 2005 2010

Lys Ala Arg Glu Ala Asn Asp Thr Ala Lys Ala Val Leu Ala Gln
 2015 2020 2025

Val Lys Asp Leu His Gln Asn Leu Asp Gly Leu Lys Gln Asn Tyr
 2030 2035 2040

Asn Lys Leu Ala Asp Ser Val Ala Lys Thr Asn Ala Val Val Lys
 2045 2050 2055

Asp Pro Ser Lys Asn Lys Ile Ile Ala Asp Ala Gly Thr Ser Val
 2060 2065 2070

Arg Asn Leu Glu Gln Glu Ala Asp Arg Leu Ile Asp Lys Leu Lys
 2075 2080 2085

Pro Ile Lys Glu Leu Glu Asp Asn Leu Lys Lys Asn Ile Ser Glu
 2090 2095 2100

Ile Lys Glu Leu Ile Asn Gln Ala Arg Lys Gln Ala Asn Ser Ile
 2105 2110 2115

Lys Val Ser Val Ser Ser Gly Gly Asp Cys Val Arg Thr Tyr Arg

2120

2125

2130

Pro Glu Ile Lys Lys Gly Ser Tyr Asn Asn Ile Val Val His Val

2135

2140

2145

Lys Thr Ala Val Ala Asp Asn Leu Leu Phe Tyr Leu Gly Ser Ala

2150

2155

2160

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2170

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2180

2185

2190

Pro Asp Leu Thr Ile Asp Asp Ser Tyr Trp Tyr Arg Ile Glu Ala

2195

2200

2205

Ser Arg Thr Gly Arg Asn Gly Ser Ile Ser Val Arg Ala Leu Asp

2210

2215

2220

Gly Pro Lys Ala Ser Met Val Pro Ser Thr Tyr His Ser Val Ser

2225

2230

2235

Pro Pro Gly Tyr Thr Ile Leu Asp Val Asp Ala Asn Ala Met Leu

2240

2245

2250

Phe Val Gly Gly Leu Thr Gly Lys Ile Lys Lys Ala Asp Ala Val

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Cys Lys Gly Cys Thr Val Ser	Pro Gln Val Glu Asp	Ser Glu Gly
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2315	2320	2325
Ile Arg Trp Tyr Pro Asn Ile	Ser Thr Val Met Phe	Lys Phe Arg
2330	2335	2340
Thr Phe Ser Ser Ser Ala Leu	Leu Met Tyr Leu Ala	Thr Arg Asp
2345	2350	2355
Leu Lys Asp Phe Met Ser Val	Glu Leu Ser Asp Gly	His Val Lys
2360	2365	2370
Val Ser Tyr Asp Leu Gly Ser	Gly Met Thr Ser Val	Val Ser Asn
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Gln Asn His Asn Asp Gly Lys	Trp Lys Ala Phe Thr	Leu Ser Arg

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Leu Asp Leu Lys Ala Asp Asp Lys Ile Tyr Phe Gly Gly Leu Pro
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Ile Asn Leu Ser Phe Ser Thr Arg Asn Glu Ser Gly Ile Ile Leu

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Gln Thr	Thr Gln Ala Tyr Tyr	Ala Ile Phe Leu Asn Lys Gly Arg
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Leu Glu	Val His Leu Ser Ser	Gly Thr Arg Thr Met Arg Lys Ile
2570	2575	2580
Val Ile	Lys Pro Glu Pro Asn	Leu Phe His Asp Gly Arg Glu His
2585	2590	2595
Ser Val	His Val Glu Arg Thr	Arg Gly Ile Phe Thr Val Gln Ile
2600	2605	2610
Asp Glu	Asp Arg Arg His Ile	Gln Asn Leu Thr Glu Glu Gln Pro
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Ile Glu	Val Lys Lys Leu Phe	Val Gly Gly Ala Pro Pro Glu Phe
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Gln Pro	Ser Pro Leu Arg Asn	Ile Pro Ala Phe Gln Gly Cys Val
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Trp Asn	Leu Val Ile Asn Ser	Ile Pro Met Asp Phe Ala Gln Pro

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Gln Pro Gln Ser Val Pro Thr	Pro Ala Phe Pro Phe	Pro Val Pro
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Thr Met Val His Gly Pro Cys	Val Ala Glu Ser Glu	Pro Ala Leu
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Ala Ile Val Phe Asp Asp Thr	Lys Val Lys Asn Arg	Leu Thr Ile
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Met Gly Arg Ile Asn His Ala	Asp Phe Gly Thr Val	Gln Leu Arg
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Gly Phe Ile Val Gly Leu Asp Leu Leu Val Glu Phe Glu Phe Arg

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Met Asp	Gly Met Gly Ile Glu	Met Ile Asp Glu Lys Leu Met Phe
2960	2965	2970
His Val	Asp Asn Gly Ala Gly	Arg Phe Thr Ala Ile Tyr Asp Ala
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Glu Ile	Pro Gly His Met Cys	Asn Gly Gln Trp Tyr Lys Val Thr
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Ala Lys	Lys Ile Lys Asn Arg	Leu Glu Leu Val Val Asp Gly Asn
3005	3010	3015
Gln Val	Asp Ala Gln Ser Pro	Asn Ser Ala Ser Thr Ser Ala Asp
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Thr Asn	Asp Pro Val Phe Val	Gly Gly Phe Pro Gly Gly Leu Asn
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Gln Phe	Gly Leu Thr Thr Asn	Ile Arg Phe Arg Gly Cys Ile Arg
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25

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Pro Ser Leu Asp Val Pro Gly Cys Ser Arg Gly Ser Cys Tyr Pro Ala

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 Pro Met Val Thr Ile Gln Leu Asp Leu Glu Ala Glu Phe His Phe Thr
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atc cag cgc cta gcc agt gag att gca gaa cgc gtc cga agc ctg 4742
 Ile Gln Arg Leu Ala Ser Glu Ile Ala Glu Arg Val Arg Ser Leu
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gcc gac gtg gac aca atc ctg gcc cat acc atg ggc gac gtg cgt 4787
 Ala Asp Val Asp Thr Ile Leu Ala His Thr Met Gly Asp Val Arg
 1570 1575 1580

cgg gct gaa cag cta ctg caa gat gcg cac cgg gca cgg agc cgg 4832
 Arg Ala Glu Gln Leu Leu Gln Asp Ala His Arg Ala Arg Ser Arg
 1585 1590 1595

gcc gag ggt gag aga cag aag gca gag aca gtc caa gcg gca ctg 4877
 Ala Glu Gly Glu Arg Gln Lys Ala Glu Thr Val Gln Ala Ala Leu
 1600 1605 1610

gag gag gct cag agg gca caa gga gct gct cag ggt gcc atc tgg 4922
 Glu Glu Ala Gln Arg Ala Gln Gly Ala Ala Gln Gly Ala Ile Trp
 1615 1620 1625

gga gca gtg gtt gac aca caa aac aca gag cag acc ctg cag cgg 4967
 Gly Ala Val Val Asp Thr Gln Asn Thr Glu Gln Thr Leu Gln Arg
 1630 1635 1640

gtc cag gag agg atg gca ggt gca gag aag tct ctg aac tct gcc 5012
 Val Gln Glu Arg Met Ala Gly Ala Glu Lys Ser Leu Asn Ser Ala
 1645 1650 1655

ggt gag cgg gct cgg caa tta gac gcc ctc ctg gag gcc ctg aaa 5057
 Gly Glu Arg Ala Arg Gln Leu Asp Ala Leu Leu Glu Ala Leu Lys
 1660 1665 1670

ctg aaa cgg gca gga aat agc ctg gca gca tct aca gcg gaa gaa 5102
 Leu Lys Arg Ala Gly Asn Ser Leu Ala Ala Ser Thr Ala Glu Glu
 1675 1680 1685

aca gca ggc agt gcc cag agc cgt gcc agg gag gct gag aaa caa 5147
 Thr Ala Gly Ser Ala Gln Ser Arg Ala Arg Glu Ala Glu Lys Gln
 1690 1695 1700

cta cgg gaa caa gta ggt gac caa tac caa aca gtg agg gcg ttg 5192
 Leu Arg Glu Gln Val Gly Asp Gln Tyr Gln Thr Val Arg Ala Leu
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gca gag cgg aag gct gaa ggt gtt ctg gct gca caa gcc agg gca 5237
 Ala Glu Arg Lys Ala Glu Gly Val Leu Ala Ala Gln Ala Arg Ala
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gaa caa ctg cgg gat gag gct cgg gac ctg ttg cag gcc gct cag 5282
 Glu Gln Leu Arg Asp Glu Ala Arg Asp Leu Leu Gln Ala Ala Gln
 1735 1740 1745

gat aag ctg cag cgg cta cag gag ctg gag ggc aca tat gag gag 5327
 Asp Lys Leu Gln Arg Leu Gln Glu Leu Glu Gly Thr Tyr Glu Glu
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aac gag cgt gca ctg gag ggc aaa gcg gcc cag ctg gat ggg ctg 5372
 Asn Glu Arg Ala Leu Glu Gly Lys Ala Ala Gln Leu Asp Gly Leu
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gaa gcc agg atg cgc agt gtg ctc cag gcc atc aac ttg cag gtc 5417
 Glu Ala Arg Met Arg Ser Val Leu Gln Ala Ile Asn Leu Gln Val
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cag atc tac aac acc tgc cag tga ccactcccta gggcctagcc ttgtcgccaa 5471
 Gln Ile Tyr Asn Thr Cys Gln
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<213> Mus musculus

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Thr Leu Ala Gln Ala Pro Ser Leu Asp Val Pro Gly Cys Ser Arg Gly
 35 40 45

Ser Cys Tyr Pro Ala Thr Gly Asp Leu Leu Val Gly Arg Ala Asp Arg
 50 55 60

Leu Thr Ala Ser Ser Thr Cys Gly Leu His Ser Pro Gln Pro Tyr Cys
 65 70 75 80

Ile Val Ser His Leu Gln Asp Glu Lys Lys Cys Phe Leu Cys Asp Ser
 85 90 95

Arg Arg Pro Phe Ser Ala Arg Asp Asn Pro Asn Ser His Arg Ile Gln
 100 105 110

Asn Val Val Thr Ser Phe Ala Pro Gln Arg Arg Thr Ala Trp Trp Gln
 115 120 125

Ser Glu Asn Gly Val Pro Met Val Thr Ile Gln Leu Asp Leu Glu Ala
 130 135 140

Glu Phe His Phe Thr His Leu Ile Met Thr Phe Lys Thr Phe Arg Pro
 145 150 155 160

Ala Ala Met Leu Val Glu Arg Ser Ala Asp Phe Gly Arg Thr Trp His
165 170 175

Val Tyr Arg Tyr Phe Ser Tyr Asp Cys Gly Ala Asp Phe Pro Gly Ile
180 185 190

Pro Leu Ala Pro Pro Arg Arg Trp Asp Asp Val Val Cys Glu Ser Arg
195 200 205

Tyr Ser Glu Ile Glu Pro Ser Thr Glu Gly Glu Val Ile Tyr Arg Val
210 215 220

Leu Asp Pro Ala Ile Pro Ile Pro Asp Pro Tyr Ser Ser Arg Ile Gln
225 230 235 240

Asn Leu Leu Lys Ile Thr Asn Leu Arg Val Asn Leu Thr Arg Leu His
245 250 255

Thr Leu Gly Asp Asn Leu Leu Asp Pro Arg Arg Glu Ile Arg Glu Lys
260 265 270

Tyr Tyr Tyr Ala Leu Tyr Glu Leu Val Ile Arg Gly Asn Cys Phe Cys
275 280 285

Tyr Gly His Ala Ser Gln Cys Ala Pro Ala Pro Gly Ala Pro Ala His
290 295 300

Ala Glu Gly Met Val His Gly Ala Cys Ile Cys Lys His Asn Thr Arg
305 310 315 320

Gly Leu Asn Cys Glu Gln Cys Gln Asp Phe Tyr Gln Asp Leu Pro Trp
325 330 335

His Pro Ala Glu Asp Gly His Thr His Ala Cys Arg Lys Cys Glu Cys
340 345 350

Asn Gly His Thr His Ser Cys His Phe Asp Met Ala Val Tyr Leu Ala
355 360 365

Ser Gly Asn Val Ser Gly Gly Val Cys Asp Gly Cys Gln His Asn Thr
370 375 380

Ala Gly Arg His Cys Glu Phe Cys Arg Pro Phe Phe Tyr Arg Asp Pro
385 390 395 400

Thr Lys Asp Met Arg Asp Pro Ala Val Cys Arg Pro Cys Asp Cys Asp
405 410 415

Pro Met Gly Ser Gln Asp Gly Gly Arg Cys Asp Ser His Asp Asp Pro
420 425 430

Val Leu Gly Leu Val Ser Gly Gln Cys Arg Cys Lys Glu His Val Val
435 440 445

Gly Thr Arg Cys Gln Gln Cys Arg Asp Gly Phe Phe Gly Leu Ser Ala
450 455 460

Ser Asp Pro Arg Gly Cys Gln Arg Cys Gln Cys Asn Ser Arg Gly Thr
465 470 475 480

Val Pro Gly Ser Ser Pro Cys Asp Ser Ser Ser Gly Thr Cys Phe Cys
485 490 495

Lys Arg Leu Val Thr Gly His Gly Cys Asp Arg Cys Leu Pro Gly His
500 505 510

Trp Gly Leu Ser His Asp Leu Leu Gly Cys Arg Pro Cys Asp Cys Asp
515 520 525

Val Gly Gly Ala Leu Asp Pro Gln Cys Asp Glu Ala Thr Gly Gln Cys
530 535 540

Arg Cys Arg Gln His Met Ile Gly Arg Arg Cys Glu Gln Val Gln Pro
545 550 555 560

Gly Tyr Phe Arg Pro Phe Leu Asp His Leu Thr Trp Glu Ala Glu Ala
565 570 575

Ala Gln Gly Gln Gly Leu Glu Val Val Glu Arg Leu Val Thr Asn Arg
580 585 590

Glu Thr Pro Ser Trp Thr Gly Pro Gly Phe Val Arg Leu Arg Glu Gly
 595 600 605

Gln Glu Val Glu Phe Leu Val Thr Ser Leu Pro Arg Ala Met Asp Tyr
 610 615 620

Asp Leu Leu Leu Arg Trp Glu Pro Gln Val Pro Glu Gln Trp Ala Glu
 625 630 635 640

Leu Glu Leu Met Val Gln Arg Pro Gly Pro Val Ser Ala His Ser Pro
 645 650 655

Cys Gly His Val Leu Pro Lys Asp Asp Arg Ile Gln Gly Met Leu His
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Pro Asn Thr Arg Phe Leu Val Phe Pro Arg Pro Val Cys Leu Glu Pro
 675 680 685

Gly Ile Ser Tyr Lys Leu Lys Leu Lys Leu Ile Gly Thr Gly Gly Arg
 690 695 700

Ala Gln Pro Glu Thr Ser Tyr Ser Gly Leu Leu Ile Asp Ser Leu Val
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Leu Gln Pro His Val Leu Val Leu Glu Met Phe Ser Gly Gly Asp Ala
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Ala Ala Leu Glu Arg Arg Thr Thr Phe Glu Arg Tyr Arg Cys His Glu
740 745 750

Glu Gly Leu Met Pro Ser Lys Ala Pro Leu Ser Glu Thr Cys Ala Pro
755 760 765

Leu Leu Ile Ser Val Ser Ala Leu Ile Tyr Asn Gly Ala Leu Pro Cys
770 775 780

Gln Cys Asp Pro Gln Gly Ser Leu Ser Ser Glu Cys Ser Pro His Gly
785 790 795 800

Gly Gln Cys Arg Cys Lys Pro Gly Val Val Gly Arg Arg Cys Asp Val
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Cys Ala Thr Gly Tyr Tyr Gly Phe Gly Pro Ala Gly Cys Gln Ala Cys
820 825 830

Gln Cys Ser Pro Asp Gly Ala Leu Ser Ala Leu Cys Glu Gly Thr Ser
835 840 845

Gly Gln Cys Pro Cys Arg Pro Gly Ala Phe Gly Leu Arg Cys Asp His
850 855 860

Cys Gln Arg Gly Gln Trp Gly Phe Pro Asn Cys Arg Pro Cys Val Cys
865 870 875 880

Asn Gly Arg Ala Asp Glu Cys Asp Thr His Thr Gly Ala Cys Leu Gly
 885 890 895

Cys Arg Asp Tyr Thr Gly Gly Glu His Cys Glu Arg Cys Ile Ala Gly
 900 905 910

Phe His Gly Asp Pro Arg Leu Pro Tyr Gly Gly Gln Cys Arg Pro Cys
 915 920 925

Pro Cys Pro Glu Gly Pro Gly Ser Gln Arg His Phe Ala Thr Ser Cys
 930 935 940

His Arg Asp Gly Tyr Ser Gln Gln Ile Val Cys Gln Cys Arg Glu Gly
 945 950 955 960

Tyr Thr Gly Leu Arg Cys Glu Ala Cys Ala Pro Gly His Phe Gly Asp
 965 970 975

Pro Ser Lys Pro Gly Gly Arg Cys Gln Leu Cys Glu Cys Ser Gly Asn
 980 985 990

Ile Asp Pro Met Asp Pro Asp Ala Cys Asp Pro His Thr Gly Gln Cys
 995 1000 1005

Leu Arg Cys Leu His Asn Thr Glu Gly Pro His Cys Gly Tyr Cys
 1010 1015 1020

Lys Pro	Gly Phe His Gly Gln	Ala Ala Arg Gln Ser	Cys His Arg
1025	1030	1035	

Cys Thr	Cys Asn Leu Leu Gly	Thr Asp Pro Arg Arg	Cys Pro Ser
1040	1045	1050	

Thr Asp	Leu Cys His Cys Asp	Pro Ser Thr Gly Gln	Cys Pro Cys
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Leu Pro	His Val Gln Gly Leu	Asn Cys Asp His Cys	Ala Pro Asn
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Phe Trp	Asn Phe Thr Ser Gly	Arg Gly Cys Gln Pro	Cys Ala Cys
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His Pro	Ser Arg Ala Arg Gly	Pro Thr Cys Asn Glu	Phe Thr Gly
1100	1105	1110	

Gln Cys	His Cys His Ala Gly	Phe Gly Gly Arg Thr	Cys Ser Glu
1115	1120	1125	

Cys Gln	Glu Leu Tyr Trp Gly	Asp Pro Gly Leu Gln	Cys Arg Ala
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Cys Asp	Cys Asp Pro Arg Gly	Ile Asp Lys Pro Gln	Cys His Arg
1145	1150	1155	

Ser Thr	Gly His Cys Ser Cys	Arg Pro Gly Val Ser	Gly Val Arg
1160	1165	1170	

Cys Asp	Gln Cys Ala Arg Gly	Phe Ser Gly Val Phe	Pro Ala Cys
1175	1180	1185	

His Pro	Cys His Ala Cys Phe	Gly Asp Trp Asp Arg	Val Val Gln
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Asp Leu	Ala Ala Arg Thr Arg	Arg Leu Glu Gln Trp	Ala Gln Glu
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Leu Gln	Gln Thr Gly Val Leu	Gly Ala Phe Glu Ser	Ser Phe Leu
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Asn Met	Gln Gly Lys Leu Gly	Met Val Gln Ala Ile	Met Ser Ala
1235	1240	1245	

Arg Asn	Ala Ser Ala Ala Ser	Thr Ala Lys Leu Val	Glu Ala Thr
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Glu Gly	Leu Arg His Glu Ile	Gly Lys Thr Thr Glu	Arg Leu Thr
1265	1270	1275	

Gln Leu	Glu Ala Glu Leu Thr	Ala Val Gln Asp Glu	Asn Phe Asn
1280	1285	1290	

Ala Asn	His Ala Leu Ser Gly	Leu Glu Arg Asp Gly	Leu Ala Leu
1295	1300	1305	

Asn Leu	Thr Leu Arg Gln Leu	Asp Gln His Leu Glu	Ile Leu Lys
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His Ser	Asn Phe Leu Gly Ala	Tyr Asp Ser Ile Arg	His Ala His
1325	1330	1335	

Ser Gln	Ser Thr Glu Ala Glu	Arg Arg Ala Asn Ala	Ser Thr Phe
1340	1345	1350	

Ala Val	Pro Ser Pro Val Ser	Asn Ser Ala Asp Thr	Arg Arg Arg
1355	1360	1365	

Thr Glu	Val Leu Met Gly Ala	Gln Lys Glu Asn Phe	Asn Arg Gln
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His Leu	Ala Asn Gln Gln Ala	Leu Gly Arg Leu Ser	Ala His Ala
1385	1390	1395	

His Thr	Leu Ser Leu Thr Gly	Ile Asn Glu Leu Val	Cys Gly Ala
1400	1405	1410	

Pro Gly	Asp Ala Pro Cys Ala	Thr Ser Pro Cys Gly	Gly Ala Gly
1415	1420	1425	

Cys Arg	Asp Glu Asp Gly Gln	Pro Arg Cys Gly Gly	Leu Gly Cys
1430	1435	1440	

Ser Gly	Ala Ala Ala Thr Ala	Asp Leu Ala Leu Gly	Arg Ala Arg
1445	1450	1455	

His Thr	Gln Ala Glu Leu Gln	Arg Ala Leu Val Glu	Gly Gly Gly
1460	1465	1470	

Ile Leu	Ser Arg Val Ser Glu	Thr Arg Arg Gln Ala	Glu Glu Ala
1475	1480	1485	

Gln Gln	Arg Ala Gln Ala Ala	Leu Asp Lys Ala Asn	Ala Ser Arg
1490	1495	1500	

Gly Gln	Val Glu Gln Ala Asn	Gln Glu Leu Arg Glu	Leu Ile Gln
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Asn Val	Lys Asp Phe Leu Ser	Gln Glu Gly Ala Asp	Pro Asp Ser
1520	1525	1530	

Ile Glu	Met Val Ala Thr Arg	Val Leu Asp Ile Ser	Ile Pro Ala
1535	1540	1545	

Ser Pro	Glu Gln Ile Gln Arg	Leu Ala Ser Glu Ile	Ala Glu Arg
1550	1555	1560	

Val Arg	Ser Leu Ala Asp Val	Asp Thr Ile Leu Ala	His Thr Met
1565	1570	1575	

Gly Asp	Val Arg Arg Ala Glu	Gln Leu Leu Gln Asp	Ala His Arg
1580	1585	1590	

Ala Arg	Ser Arg Ala Glu Gly	Glu Arg Gln Lys Ala	Glu Thr Val
1595	1600	1605	

Gln Ala	Ala Leu Glu Glu Ala	Gln Arg Ala Gln Gly	Ala Ala Gln
1610	1615	1620	

Gly Ala	Ile Trp Gly Ala Val	Val Asp Thr Gln Asn	Thr Glu Gln
1625	1630	1635	

Thr Leu	Gln Arg Val Gln Glu	Arg Met Ala Gly Ala	Glu Lys Ser
1640	1645	1650	

Leu Asn	Ser Ala Gly Glu Arg	Ala Arg Gln Leu Asp	Ala Leu Leu
1655	1660	1665	

Glu Ala	Leu Lys Leu Lys Arg	Ala Gly Asn Ser Leu	Ala Ala Ser
1670	1675	1680	

Thr Ala	Glu Glu Thr Ala Gly	Ser Ala Gln Ser Arg	Ala Arg Glu
1685	1690	1695	

Ala Glu	Lys Gln Leu Arg Glu	Gln Val Gly Asp Gln	Tyr Gln Thr
1700	1705	1710	

Val Arg	Ala Leu Ala Glu Arg	Lys Ala Glu Gly Val	Leu Ala Ala
1715	1720	1725	

Gln Ala	Arg Ala Glu Gln Leu	Arg Asp Glu Ala Arg	Asp Leu Leu
1730	1735	1740	

Gln Ala	Ala Gln Asp Lys Leu	Gln Arg Leu Gln Glu	Leu Glu Gly
1745	1750	1755	

Thr Tyr	Glu Glu Asn Glu Arg	Ala Leu Glu Gly Lys	Ala Ala Gln
1760	1765	1770	

Leu Asp	Gly Leu Glu Ala Arg	Met Arg Ser Val Leu	Gln Ala Ile
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Asn Leu	Gln Val Gln Ile Tyr	Asn Thr Cys Gln
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gcg ctg gtg att cag gag aca cac ttc gcg gca ggc gcg gac atg ggc 96

Ala Leu Val Ile Gln Glu Thr His Phe Ala Ala Gly Ala Asp Met Gly

20 25 30

tct tgc tac gac ggt gtg gga cgc gca cag cgc tgt ctg cct gag ttc 144

Ser Cys Tyr Asp Gly Val Gly Arg Ala Gln Arg Cys Leu Pro Glu Phe

35 40 45

gag aac gcg gcg ttc ggc cga cgc gcc gag gcc tcc cac acg tgc gga 192

Glu Asn Ala Ala Phe Gly Arg Arg Ala Glu Ala Ser His Thr Cys Gly

50 55 60

cgg ccc ccg gag gac ttc tgt cca cac gtg ggg gca cca ggg gct ggg 240

Arg Pro Pro Glu Asp Phe Cys Pro His Val Gly Ala Pro Gly Ala Gly

65 70 75 80

cta cag tgc cag cgc tgc gac gat gct gac ccc gga cga cgc cac gac 288

Leu Gln Cys Gln Arg Cys Asp Asp Ala Asp Pro Gly Arg Arg His Asp

85 90 95

gcc tcc tac ctc aca gac ttc cac agc ccc gat gac agc acc tgg tgg 336

Ala Ser Tyr Leu Thr Asp Phe His Ser Pro Asp Asp Ser Thr Trp Trp

100 105 110

cag agc cca tcc atg gcc ttc ggg gtg cag tac ccc acc tcg gtt aac 384

Gln Ser Pro Ser Met Ala Phe Gly Val Gln Tyr Pro Thr Ser Val Asn

115 120 125

ctg acc ttg agc tta ggg aag gcc tat gag att acc tat gtg agg ctg 432

Leu Thr Leu Ser Leu Gly Lys Ala Tyr Glu Ile Thr Tyr Val Arg Leu

130

135

140

aag ttc cac acc agt cgc cct gag agt ttt gcc atc tac aag cgc acg 480

Lys Phe His Thr Ser Arg Pro Glu Ser Phe Ala Ile Tyr Lys Arg Thr

145

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160

tac gcc agt ggc ccc tgg gag ccc tac caa tac tac agt gcc tcc tgc 528

Tyr Ala Ser Gly Pro Trp Glu Pro Tyr Gln Tyr Tyr Ser Ala Ser Cys

165

170

175

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Gln Lys Thr Tyr Gly Arg Pro Glu Gly His Tyr Leu Arg Pro Gly Glu

180

185

190

gat gag agg gtg gcc ttc tgc acc tct gag ttc agt gac atc tcc ccc 624

Asp Glu Arg Val Ala Phe Cys Thr Ser Glu Phe Ser Asp Ile Ser Pro

195

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ttg aac ggg ggc aac gtg gcc ttc tcc acc ctg gaa ggc cgt ccc agt 672

Leu Asn Gly Gly Asn Val Ala Phe Ser Thr Leu Glu Gly Arg Pro Ser

210

215

220

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Ala Tyr Asn Phe Glu Glu Ser Pro Val Leu Gln Glu Trp Val Thr Ser

225

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235

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Thr Asp Ile Leu Ile Ser Leu Asp Arg Leu Asn Thr Phe Gly Asp Asp

245

250

255

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260

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270

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 Cys Glu Pro Asn Ala Ala Gly Gln Leu Ala Cys Arg Cys Gln His Asn
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 Pro Trp Ala Arg Gly Thr Ala Glu Asp Ala Asn Glu Cys Leu Pro Cys
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aac tgc agt ggg cac tct gag gag tgc acg ttt gac agg gag ctc tat 1056
 Asn Cys Ser Gly His Ser Glu Glu Cys Thr Phe Asp Arg Glu Leu Tyr
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 Arg Ser Thr Gly His Gly Gly His Cys Gln Arg Cys Arg Asp His Thr
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 Thr Gly Pro His Cys Glu Arg Cys Glu Lys Asn Tyr Tyr Arg Trp Ser
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 Pro Lys Thr Pro Cys Gln Pro Cys Asp Cys His Pro Ala Gly Ser Leu
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 Ser Leu Gln Cys Asp Asn Ser Gly Val Cys Pro Cys Lys Pro Thr Val
 405 410 415

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 Thr Gly Trp Lys Cys Asp Arg Cys Leu Pro Gly Phe His Ser Leu Ser
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 Gly Ser Leu Cys Asp Arg Cys Arg Pro Gly Thr Phe Asn Leu Gln Pro
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 His Asn Pro Val Gly Cys Ser Ser Cys Phe Cys Tyr
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 ccaaggtgac cgtcatagga gcagagaccc tgctagctga cctagaggga atgaagctga 4066
 ggtctctct acccaaggag caggcagcgc tgaagaagaa agcaggcagc atcaggacca 4126

ggctcctgga ggacacaaag aggaagacca agcatgcaga gaggatgctg ggaaatgctg 4186
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 atgccaagct ctccagagct ttgctgaggg aaggcaagca gggctaccgt catgccagcc 4306
 gactgccag ccagaccag gccacactcc gtcgggcctc tcgcctgctg ctgacctcag 4366
 aagcacacaa gcaggagctg gaggaagcta aacaggtgac ctctgggctg agcactgtgg 4426
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 tgcttgtaa gctggggctc ctgggtgtcc accaagcccc tgctcagacc ctgaacgaga 4546
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 catcttcggt ctgagcagga gtgaatacat gctcacacct ccacagatga ccctgtatgt 4906
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Ser Cys Tyr Asp Gly Val Gly Arg Ala Gln Arg Cys Leu Pro Glu Phe
35 40 45

Glu Asn Ala Ala Phe Gly Arg Arg Ala Glu Ala Ser His Thr Cys Gly
50 55 60

Arg Pro Pro Glu Asp Phe Cys Pro His Val Gly Ala Pro Gly Ala Gly
65 70 75 80

Leu Gln Cys Gln Arg Cys Asp Asp Ala Asp Pro Gly Arg Arg His Asp
85 90 95

Ala Ser Tyr Leu Thr Asp Phe His Ser Pro Asp Asp Ser Thr Trp Trp
100 105 110

Gln Ser Pro Ser Met Ala Phe Gly Val Gln Tyr Pro Thr Ser Val Asn
115 120 125

Leu Thr Leu Ser Leu Gly Lys Ala Tyr Glu Ile Thr Tyr Val Arg Leu
130 135 140

Lys Phe His Thr Ser Arg Pro Glu Ser Phe Ala Ile Tyr Lys Arg Thr
145 150 155 160

Tyr Ala Ser Gly Pro Trp Glu Pro Tyr Gln Tyr Tyr Ser Ala Ser Cys
165 170 175

Gln Lys Thr Tyr Gly Arg Pro Glu Gly His Tyr Leu Arg Pro Gly Glu
180 185 190

Asp Glu Arg Val Ala Phe Cys Thr Ser Glu Phe Ser Asp Ile Ser Pro
195 200 205

Leu Asn Gly Gly Asn Val Ala Phe Ser Thr Leu Glu Gly Arg Pro Ser
210 215 220

Ala Tyr Asn Phe Glu Glu Ser Pro Val Leu Gln Glu Trp Val Thr Ser
225 230 235 240

Thr Asp Ile Leu Ile Ser Leu Asp Arg Leu Asn Thr Phe Gly Asp Asp
245 250 255

Ile Phe Lys Asp Pro Arg Val Leu Gln Ser Tyr Tyr Tyr Ala Val Ser
260 265 270

Asp Phe Ser Val Gly Gly Arg Cys Lys Cys Asn Gly His Ala Ser Glu
275 280 285

Cys Glu Pro Asn Ala Ala Gly Gln Leu Ala Cys Arg Cys Gln His Asn
290 295 300

Thr Thr Gly Val Asp Cys Glu Arg Cys Leu Pro Phe Phe Gln Asp Arg
305 310 315 320

Pro Trp Ala Arg Gly Thr Ala Glu Asp Ala Asn Glu Cys Leu Pro Cys
325 330 335

Asn Cys Ser Gly His Ser Glu Glu Cys Thr Phe Asp Arg Glu Leu Tyr
340 345 350

Arg Ser Thr Gly His Gly Gly His Cys Gln Arg Cys Arg Asp His Thr
355 360 365

Thr Gly Pro His Cys Glu Arg Cys Glu Lys Asn Tyr Tyr Arg Trp Ser
370 375 380

Pro Lys Thr Pro Cys Gln Pro Cys Asp Cys His Pro Ala Gly Ser Leu
385 390 395 400

Ser Leu Gln Cys Asp Asn Ser Gly Val Cys Pro Cys Lys Pro Thr Val
 405 410 415

Thr Gly Trp Lys Cys Asp Arg Cys Leu Pro Gly Phe His Ser Leu Ser
 420 425 430

Glu Gly Gly Cys Arg Pro Cys Ala Cys Asn Val Ala Gly Ser Leu Gly
 435 440 445

Thr Cys Asp Pro Arg Ser Gly Asn Cys Pro Cys Lys Glu Asn Val Glu
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Gly Ser Leu Cys Asp Arg Cys Arg Pro Gly Thr Phe Asn Leu Gln Pro
 465 470 475 480

His Asn Pro Val Gly Cys Ser Ser Cys Phe Cys Tyr
 485 490

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<211> 2265

<212> PRT

<213> Bos taurus

<400> 11

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Ser Lys Pro Gly Cys Tyr Asp Asn Gly Lys His Tyr Gln Ile Asn Gln
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Gln Trp Glu Arg Thr Tyr Leu Gly Ser Ala Leu Val Cys Thr Cys Tyr
 35 40 45

Gly Gly Ser Arg Gly Phe Asn Cys Glu Ser Lys Pro Glu Pro Glu Glu
 50 55 60

Thr Cys Phe Asp Lys Tyr Thr Gly Asn Thr Tyr Arg Val Gly Asp Thr
 65 70 75 80

Tyr Glu Arg Pro Lys Asp Ser Met Ile Trp Asp Cys Thr Cys Ile Gly
 85 90 95

Ala Gly Arg Gly Arg Ile Ser Cys Thr Ile Ala Asn Arg Cys His Glu
 100 105 110

Gly Gly Gln Ser Tyr Lys Ile Gly Asp Thr Trp Arg Arg Pro His Glu
 115 120 125

Thr Gly Gly Tyr Met Leu Glu Cys Val Cys Leu Gly Asn Gly Lys Gly
 130 135 140

Glu Trp Thr Cys Lys Pro Ile Ala Glu Lys Cys Phe Asp Gln Ala Ala
 145 150 155 160

Gly Thr Ser Tyr Val Val Gly Glu Thr Trp Glu Lys Pro Tyr Gln Gly
165 170 175

Trp Met Met Val Asp Cys Thr Cys Leu Gly Glu Gly Ser Gly Arg Ile
180 185 190

Thr Cys Thr Ser Arg Asn Arg Cys Asn Asp Gln Asp Thr Arg Thr Ser
195 200 205

Tyr Arg Ile Gly Asp Thr Trp Ser Lys Lys Asp Asn Arg Gly Asn Leu
210 215 220

Leu Gln Cys Ile Cys Thr Gly Asn Gly Arg Gly Glu Trp Lys Cys Glu
225 230 235 240

Arg His Thr Ser Leu Gln Thr Thr Ser Ala Gly Ser Gly Ser Phe Thr
245 250 255

Asp Val Arg Thr Ala Ile Tyr Gln Pro Gln Pro His Pro Gln Pro Pro
260 265 270

Pro Tyr Gly His Cys Val Thr Asp Ser Gly Val Val Tyr Ser Val Gly
275 280 285

Met Gln Trp Leu Lys Thr Gln Gly Asn Lys Gln Met Leu Cys Thr Cys
290 295 300

Leu Gly Asn Gly Val Ser Cys Gln Glu Thr Ala Val Thr Gln Thr Tyr
 305 310 315 320

Gly Gly Asn Ser Asn Gly Glu Pro Cys Val Leu Pro Phe Thr Tyr Asn
 325 330 335

Gly Lys Thr Phe Tyr Ser Cys Thr Thr Glu Gly Arg Gln Asp Gly His
 340 345 350

Leu Trp Cys Ser Thr Thr Ser Asn Tyr Glu Gln Asp Gln Lys Tyr Ser
 355 360 365

Phe Cys Thr Asp His Thr Val Leu Val Gln Thr Arg Gly Gly Asn Ser
 370 375 380

Asn Gly Ala Leu Cys His Phe Pro Phe Leu Tyr Asn Asn His Asn Tyr
 385 390 395 400

Thr Asp Cys Thr Ser Glu Gly Arg Arg Asp Asn Met Lys Trp Cys Gly
 405 410 415

Thr Thr Gln Asn Tyr Asp Ala Asp Gln Lys Phe Gly Phe Cys Pro Met
 420 425 430

Ala Ala His Glu Glu Ile Cys Thr Thr Asn Glu Gly Val Met Tyr Arg
 435 440 445

Ile Gly Asp Gln Trp Asp Lys Gln His Asp Met Gly His Met Met Arg
450 455 460

Cys Thr Cys Val Gly Asn Gly Arg Gly Glu Trp Thr Cys Val Ala Tyr
465 470 475 480

Ser Gln Leu Arg Asp Gln Cys Ile Val Asp Gly Ile Thr Tyr Asn Val
485 490 495

Asn Asp Thr Phe His Lys Arg His Glu Glu Gly His Met Leu Asn Cys
500 505 510

Thr Cys Phe Gly Gln Gly Arg Gly Arg Trp Lys Cys Asp Pro Val Asp
515 520 525

Gln Cys Gln Asp Ser Glu Thr Arg Thr Phe Tyr Gln Ile Gly Asp Ser
530 535 540

Trp Glu Lys Tyr Leu Gln Gly Val Arg Tyr Gln Cys Tyr Cys Tyr Gly
545 550 555 560

Arg Gly Ile Gly Glu Trp Ala Cys Gln Pro Leu Gln Thr Tyr Pro Asp
565 570 575

Thr Ser Gly Pro Val Gln Val Ile Ile Thr Glu Thr Pro Ser Gln Pro
580 585 590

Asn Ser His Pro Ile Gln Trp Ser Ala Pro Glu Ser Ser His Ile Ser
595 600 605

Lys Tyr Ile Leu Arg Trp Lys Pro Lys Asn Ser Pro Asp Arg Trp Lys
610 615 620

Glu Ala Thr Ile Pro Gly His Leu Asn Ser Tyr Thr Ile Lys Gly Leu
625 630 635 640

Arg Pro Gly Val Val Tyr Glu Gly Gln Leu Ile Ser Val Gln His Tyr
645 650 655

Gly Gln Arg Glu Val Thr Arg Phe Asp Phe Thr Thr Thr Ser Thr Ser
660 665 670

Pro Ala Val Thr Ser Asn Thr Val Thr Gly Glu Thr Thr Pro Leu Ser
675 680 685

Pro Val Val Ala Thr Ser Glu Ser Val Thr Glu Ile Thr Ala Ser Ser
690 695 700

Phe Val Val Ser Trp Val Ser Ala Ser Asp Thr Val Ser Gly Phe Arg
705 710 715 720

Val Glu Tyr Glu Leu Ser Glu Glu Gly Asp Glu Pro Gln Tyr Leu Asp

725

730

735

Leu Pro Ser Thr Ala Thr Ser Val Asn Ile Pro Asp Leu Leu Pro Gly

740

745

750

Arg Lys Tyr Thr Val Asn Val Tyr Glu Ile Ser Glu Glu Gly Glu Gln

755

760

765

Asn Leu Ile Leu Ser Thr Ser Gln Thr Thr Ala Pro Asp Ala Pro Pro

770

775

780

Asp Pro Thr Val Asp Gln Val Asp Asp Thr Ser Ile Val Val Arg Trp

785

790

795

800

Ser Arg Pro Arg Ala Pro Ile Thr Gly Tyr Arg Ile Val Tyr Ser Pro

805

810

815

Ser Val Glu Gly Ser Ser Thr Glu Leu Asn Leu Pro Glu Thr Ala Asn

820

825

830

Ser Val Thr Leu Ser Asp Leu Gln Pro Gly Val Gln Tyr Asn Ile Thr

835

840

845

Ile Tyr Ala Val Glu Glu Asn Gln Glu Ser Thr Pro Val Phe Ile Gln

850

855

860

Gln Glu Thr Thr Gly Val Pro Arg Ser Asp Lys Val Pro Pro Pro Arg

865 870 875 880

Asp Leu Gln Phe Val Glu Val Thr Asp Val Lys Ile Thr Ile Met Trp
 885 890 895

Thr Pro Pro Glu Ser Pro Val Thr Gly Tyr Arg Val Asp Val Ile Pro
 900 905 910

Val Asn Leu Pro Gly Glu His Gly Gln Arg Leu Pro Val Ser Arg Asn
 915 920 925

Thr Phe Ala Glu Val Thr Gly Leu Ser Pro Gly Val Thr Tyr His Phe
 930 935 940

Lys Val Phe Ala Val Asn Gln Gly Arg Glu Ser Lys Pro Leu Thr Ala
 945 950 955 960

Gln Gln Ala Thr Lys Leu Asp Ala Pro Thr Asn Leu Gln Phe Ile Asn
 965 970 975

Glu Thr Asp Thr Thr Val Ile Val Thr Trp Thr Pro Pro Arg Ala Arg
 980 985 990

Ile Val Gly Tyr Arg Leu Thr Val Gly Leu Thr Arg Gly Gly Gln Pro
 995 1000 1005

Lys Gln Tyr Asn Val Gly Pro Ala Ala Ser Gln Tyr Pro Leu Arg

1010	1015	1020
Asn Leu	Gln Pro Gly Ser Glu	Tyr Ala Val Ser Leu Val Ala Val
1025	1030	1035
Lys Gly	Asn Gln Gln Ser Pro	Arg Val Thr Gly Val Phe Thr Thr
1040	1045	1050
Leu Gln	Pro Leu Gly Ser Ile	Pro His Tyr Asn Thr Glu Val Thr
1055	1060	1065
Glu Thr	Thr Ile Val Ile Thr	Trp Thr Pro Ala Pro Arg Ile Gly
1070	1075	1080
Phe Lys	Leu Gly Val Arg Pro	Ser Gln Gly Gly Glu Ala Pro Arg
1085	1090	1095
Glu Val	Thr Ser Glu Ser Gly	Ser Ile Val Val Ser Gly Leu Thr
1100	1105	1110
Pro Gly	Val Glu Tyr Val Tyr	Thr Ile Ser Val Leu Arg Asp Gly
1115	1120	1125
Gln Glu	Arg Asp Ala Pro Ile	Val Lys Lys Val Val Thr Pro Leu
1130	1135	1140
Ser Pro	Pro Thr Asn Leu His	Leu Glu Ala Asn Pro Asp Thr Gly

1145	1150	1155
Val Leu Thr Val Ser Trp Glu	Arg Ser Thr Thr Pro	Asp Ile Thr
1160	1165	1170
Gly Tyr Arg Ile Thr Thr Thr	Pro Thr Asn Gly Gln	Gln Gly Tyr
1175	1180	1185
Ser Leu Glu Glu Val Val His	Ala Asp Gln Ser Ser	Cys Thr Phe
1190	1195	1200
Glu Asn Leu Ser Pro Gly Leu	Glu Tyr Asn Val Ser	Val Tyr Thr
1205	1210	1215
Val Lys Asp Asp Lys Glu Ser	Val Pro Ile Ser Asp	Thr Ile Ile
1220	1225	1230
Pro Ala Val Pro Pro Pro Thr	Asp Leu Arg Phe Thr	Asn Val Gly
1235	1240	1245
Pro Asp Thr Met Arg Val Thr	Trp Ala Pro Pro Ser	Ser Ile Glu
1250	1255	1260
Leu Thr Asn Leu Leu Val Arg	Tyr Ser Pro Val Lys	Asn Glu Glu
1265	1270	1275
Asp Val Ala Glu Leu Ser Ile	Ser Pro Ser Asp Asn	Ala Val Val

1280	1285	1290
Leu Thr Asn Leu Leu Pro Gly	Thr Glu Tyr Leu Val	Ser Val Ser
1295	1300	1305
Ser Val Tyr Glu Gln His Glu	Ser Ile Pro Leu Arg	Gly Arg Gln
1310	1315	1320
Lys Thr Ala Leu Asp Ser Pro	Ser Gly Ile Asp Phe	Ser Asp Ile
1325	1330	1335
Thr Ala Asn Ser Phe Thr Val	His Trp Ile Ala Pro	Arg Ala Thr
1340	1345	1350
Ile Thr Gly Tyr Arg Ile Arg	His His Pro Glu Asn	Met Gly Gly
1355	1360	1365
Arg Pro Arg Glu Asp Arg Val	Pro Pro Ser Arg Asn	Ser Ile Thr
1370	1375	1380
Leu Thr Asn Leu Asn Pro Gly	Thr Glu Tyr Val Val	Ser Ile Val
1385	1390	1395
Ala Leu Asn Ser Lys Glu Glu	Ser Leu Pro Leu Val	Gly Gln Gln
1400	1405	1410
Ser Thr Val Ser Asp Val Pro	Arg Asp Leu Glu Val	Ile Ala Ala

1415

1420

1425

Thr Pro Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr

1430

1435

1440

Val Arg Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Ser Ser

1445

1450

1455

Pro Val Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr

1460

1465

1470

Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr

1475

1480

1485

Ala Val Thr Gly Arg Gly Asp Ser Pro Ala Ser Ser Lys Pro Val

1490

1495

1500

Ser Ile Asn Tyr Arg Thr Glu Ile Asp Lys Pro Ser Gln Met Gln

1505

1510

1515

Val Thr Asp Val Gln Asp Asn Ser Ile Ser Val Arg Trp Leu Pro

1520

1525

1530

Ser Ser Ser Pro Val Thr Gly Tyr Arg Val Thr Thr Ala Pro Lys

1535

1540

1545

Asn Gly Pro Gly Pro Ser Lys Thr Lys Thr Val Gly Pro Asp Gln

1550	1555	1560
Thr Glu Met Thr Ile Glu Gly	Leu Gln Pro Thr Val	Glu Tyr Val
1565	1570	1575
Val Ser Val Tyr Ala Gln Asn	Gln Asn Gly Glu Ser	Gln Pro Leu
1580	1585	1590
Val Gln Thr Ala Val Thr Thr	Ile Pro Ala Pro Thr	Asn Leu Lys
1595	1600	1605
Phe Thr Gln Val Thr Pro Thr	Ser Leu Thr Ala Gln	Trp Thr Ala
1610	1615	1620
Pro Asn Val Gln Leu Thr Gly	Tyr Arg Val Arg Val	Thr Pro Lys
1625	1630	1635
Glu Lys Thr Gly Pro Met Lys	Glu Ile Asn Leu Ala	Pro Asp Ser
1640	1645	1650
Ser Ser Val Val Val Ser Gly	Leu Met Val Ala Thr	Lys Tyr Glu
1655	1660	1665
Val Ser Val Tyr Ala Leu Lys	Asp Thr Leu Thr Ser	Arg Pro Ala
1670	1675	1680
Gln Gly Val Val Thr Thr Leu	Glu Asn Val Ser Pro	Pro Arg Arg

1685 1690 1695

Ala Arg Val Thr Asp Ala Thr Glu Thr Thr Ile Thr Ile Ser Trp
1700 1705 1710

Arg Thr Lys Thr Glu Thr Ile Thr Gly Phe Gln Val Asp Ala Ile
1715 1720 1725

Pro Ala Asn Gly Gln Thr Pro Ile Gln Arg Thr Ile Arg Pro Asp
1730 1735 1740

Val Arg Ser Tyr Thr Ile Thr Gly Leu Gln Pro Gly Thr Asp Tyr
1745 1750 1755

Lys Ile His Leu Tyr Thr Leu Asn Asp Asn Ala Arg Ser Ser Pro
1760 1765 1770

Val Val Ile Asp Ala Ser Thr Ala Ile Asp Ala Pro Ser Asn Leu
1775 1780 1785

Arg Phe Leu Ala Thr Thr Pro Asn Ser Leu Leu Val Ser Trp Gln
1790 1795 1800

Pro Pro Arg Ala Arg Ile Thr Gly Tyr Ile Ile Lys Tyr Glu Lys
1805 1810 1815

Pro Gly Ser Pro Pro Arg Glu Val Val Pro Arg Pro Arg Pro Gly

1820

1825

1830

Val Thr Glu Ala Thr Ile Thr Gly Leu Glu Pro Gly Thr Glu Tyr
 1835 1840 1845

Thr Ile Gln Val Ile Ala Leu Lys Asn Asn Gln Lys Ser Glu Pro
 1850 1855 1860

Leu Ile Gly Arg Lys Lys Thr Asp Glu Leu Pro Gln Leu Val Thr
 1865 1870 1875

Leu Pro His Pro Asn Leu His Gly Pro Glu Ile Leu Asp Val Pro
 1880 1885 1890

Ser Thr Val Gln Lys Thr Pro Phe Ile Thr Asn Pro Gly Tyr Asp
 1895 1900 1905

Thr Gly Asn Gly Ile Gln Leu Pro Gly Thr Ser Gly Gln Gln Pro
 1910 1915 1920

Ser Leu Gly Gln Gln Met Ile Phe Glu Glu His Gly Phe Arg Arg
 1925 1930 1935

Thr Thr Pro Pro Thr Thr Ala Thr Pro Val Arg His Arg Pro Arg
 1940 1945 1950

Pro Tyr	Pro Pro Asn Val Asn	Glu Glu Ile Gln Ile	Gly His Val
1955	1960	1965	

Pro Arg	Gly Asp Val Asp His	His Leu Tyr Pro His	Val Val Gly
1970	1975	1980	

Leu Asn	Pro Asn Ala Ser Thr	Gly Gln Glu Ala Leu	Ser Gln Thr
1985	1990	1995	

Thr Ile	Ser Trp Thr Pro Phe	Gln Glu Ser Ser Glu	Tyr Ile Ile
2000	2005	2010	

Ser Cys	His Pro Val Gly Ile	Asp Glu Glu Pro Leu	Gln Phe Arg
2015	2020	2025	

Val Pro	Gly Thr Ser Ala Ser	Ala Thr Leu Thr Gly	Leu Thr Arg
2030	2035	2040	

Gly Ala	Thr Tyr Asn Ile Ile	Val Glu Ala Val Lys	Asp Gln Gln
2045	2050	2055	

Arg Gln	Lys Val Arg Glu Glu	Val Val Thr Val Gly	Asn Ser Val
2060	2065	2070	

Asp Gln	Gly Leu Ser Gln Pro	Thr Asp Asp Ser Cys	Phe Asp Pro
2075	2080	2085	

Tyr Thr	Val Ser His Tyr Ala	Ile Gly Glu Glu Trp	Glu Arg Leu
2090	2095	2100	

Ser Asp	Ser Gly Phe Lys Leu	Ser Cys Gln Cys Leu	Gly Phe Gly
2105	2110	2115	

Ser Gly	His Phe Arg Cys Asp	Ser Ser Lys Trp Cys	His Asp Asn
2120	2125	2130	

Gly Val	Asn Tyr Lys Ile Gly	Glu Lys Trp Asp Arg	Gln Gly Glu
2135	2140	2145	

Asn Gly	Gln Met Met Ser Cys	Thr Cys Leu Gly Asn	Gly Lys Gly
2150	2155	2160	

Glu Phe	Lys Cys Asp Pro His	Glu Ala Thr Cys Tyr	Asp Asp Gly
2165	2170	2175	

Lys Thr	Tyr His Val Gly Glu	Gln Trp Gln Lys Glu	Tyr Leu Gly
2180	2185	2190	

Ala Ile	Cys Ser Cys Thr Cys	Phe Gly Gly Gln Arg	Gly Trp Arg
2195	2200	2205	

Cys Asp	Asn Cys Arg Arg Pro	Gly Ala Glu Pro Gly	Asn Glu Gly
2210	2215	2220	

Ser Thr Ala His Ser Tyr Asn Gln Tyr Ser Gln Arg Tyr His Gln
2225 2230 2235

Arg Thr Asn Thr Asn Val Asn Cys Pro Ile Glu Cys Phe Met Pro
2240 2245 2250

Leu Asp Val Gln Ala Asp Arg Glu Asp Ser Arg Glu
2255 2260 2265

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<213> Mus musculus

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<308> AF106007

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ggt ttc cca gct cct gcc cca ctg cgg gca cta cta ttt ttc ctt tet 96
 Gly Phe Pro Ala Pro Ala Pro Leu Arg Ala Leu Leu Phe Phe Leu Ser
 20 25 30

ctg ttg gcc tac gtg ttg gtg ctg act gaa aac ata ctc atc att aca 144
 Leu Leu Ala Tyr Val Leu Val Leu Thr Glu Asn Ile Leu Ile Ile Thr
 35 40 45

gca att agg aac cac ccc acc ctc cac aaa ccc atg tat ttt ttc ttg 192
 Ala Ile Arg Asn His Pro Thr Leu His Lys Pro Met Tyr Phe Phe Leu
 50 55 60

gct aat atg tca ttc ctg gag att tgg tat gtc act gtt acg att cct 240
 Ala Asn Met Ser Phe Leu Glu Ile Trp Tyr Val Thr Val Thr Ile Pro
 65 70 75 80

aag atg ctt gct ggc ttc att ggt tcc gag gag aat cat gga cag ctg 288
 Lys Met Leu Ala Gly Phe Ile Gly Ser Glu Glu Asn His Gly Gln Leu
 85 90 95

atc tcc ttt gag gca tgc atg aca cag ctc tac ttt ttc cta ggc ttg 336
 Ile Ser Phe Glu Ala Cys Met Thr Gln Leu Tyr Phe Phe Leu Gly Leu
 100 105 110

ggt tgc aca gag tgt gtc ctt ctt gct gtc atg gcc tat gac cgc tat 384
 Gly Cys Thr Glu Cys Val Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr
 115 120 125

gtg gcc atc tgt cac cca ctc cac tat cct gtc att gtc agt agc cgg 432
 Val Ala Ile Cys His Pro Leu His Tyr Pro Val Ile Val Ser Ser Arg
 130 135 140

cta tgt gtg cag atg gca gct gga tcc tgg gct gga ggt ttt ggt atc 480
 Leu Cys Val Gln Met Ala Ala Gly Ser Trp Ala Gly Gly Phe Gly Ile
 145 150 155 160

tcc atg gtt aaa gtt ttc ctc att tct cgc ctg tct tac tgt ggc ccc 528
 Ser Met Val Lys Val Phe Leu Ile Ser Arg Leu Ser Tyr Cys Gly Pro
 165 170 175

aac acc atc aac cac ttt ttc tgt gat gtt tct cca ttg ctc aac ttg 576
 Asn Thr Ile Asn His Phe Phe Cys Asp Val Ser Pro Leu Leu Asn Leu
 180 185 190

tca tgc act gac atg tcc aca gca gag ctt aca gac ttt atc ctg gcc 624
 Ser Cys Thr Asp Met Ser Thr Ala Glu Leu Thr Asp Phe Ile Leu Ala
 195 200 205

att ttt att ctg ctg ggg cca ctc tct gtc act ggg gct tcc tat atg 672
 Ile Phe Ile Leu Leu Gly Pro Leu Ser Val Thr Gly Ala Ser Tyr Met
 210 215 220

gcc atc aca ggt gca gtg atg cgc atc ccc tca gct gct ggc cgc cat 720
 Ala Ile Thr Gly Ala Val Met Arg Ile Pro Ser Ala Ala Gly Arg His
 225 230 235 240

aag gcc ttt tca acc tgt gcc tcc cac ctc act gtt gtg att atc ttc 768
 Lys Ala Phe Ser Thr Cys Ala Ser His Leu Thr Val Val Ile Ile Phe
 245 250 255

tat gca gcc agt att ttc atc tat gcc agg cct aag gca ctc tca gct 816
 Tyr Ala Ala Ser Ile Phe Ile Tyr Ala Arg Pro Lys Ala Leu Ser Ala
 260 265 270

ttt gac acc aac aag ctg gtc tct gta ctc tac gct gtc att gta cca 864
 Phe Asp Thr Asn Lys Leu Val Ser Val Leu Tyr Ala Val Ile Val Pro
 275 280 285

ttg ctc aat ccc atc atc tac tgc ttg cgc aat caa gaa gtc aaa aaa 912
 Leu Leu Asn Pro Ile Ile Tyr Cys Leu Arg Asn Gln Glu Val Lys Lys
 290 295 300

gcc cta cgt cgc act ctg cac ctg gcc caa ggc cag gac gcc aat acc 960
 Ala Leu Arg Arg Thr Leu His Leu Ala Gln Gly Gln Asp Ala Asn Thr
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<213> Mus musculus

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 35 40 45

Ala Ile Arg Asn His Pro Thr Leu His Lys Pro Met Tyr Phe Phe Leu
 50 55 60

Ala Asn Met Ser Phe Leu Glu Ile Trp Tyr Val Thr Val Thr Ile Pro
 65 70 75 80

Lys Met Leu Ala Gly Phe Ile Gly Ser Glu Glu Asn His Gly Gln Leu
 85 90 95

Ile Ser Phe Glu Ala Cys Met Thr Gln Leu Tyr Phe Phe Leu Gly Leu
 100 105 110

Gly Cys Thr Glu Cys Val Leu Leu Ala Val Met Ala Tyr Asp Arg Tyr
 115 120 125

Val Ala Ile Cys His Pro Leu His Tyr Pro Val Ile Val Ser Ser Arg
 130 135 140

Leu Cys Val Gln Met Ala Ala Gly Ser Trp Ala Gly Gly Phe Gly Ile
 145 150 155 160

Ser Met Val Lys Val Phe Leu Ile Ser Arg Leu Ser Tyr Cys Gly Pro
 165 170 175

Asn Thr Ile Asn His Phe Phe Cys Asp Val Ser Pro Leu Leu Asn Leu
 180 185 190

Ser Cys Thr Asp Met Ser Thr Ala Glu Leu Thr Asp Phe Ile Leu Ala
 195 200 205

Ile Phe Ile Leu Leu Gly Pro Leu Ser Val Thr Gly Ala Ser Tyr Met
 210 215 220

Ala Ile Thr Gly Ala Val Met Arg Ile Pro Ser Ala Ala Gly Arg His
 225 230 235 240

Lys Ala Phe Ser Thr Cys Ala Ser His Leu Thr Val Val Ile Ile Phe
 245 250 255

Tyr Ala Ala Ser Ile Phe Ile Tyr Ala Arg Pro Lys Ala Leu Ser Ala
 260 265 270

Phe Asp Thr Asn Lys Leu Val Ser Val Leu Tyr Ala Val Ile Val Pro
 275 280 285

Leu Leu Asn Pro Ile Ile Tyr Cys Leu Arg Asn Gln Glu Val Lys Lys
 290 295 300

Ala Leu Arg Arg Thr Leu His Leu Ala Gln Gly Gln Asp Ala Asn Thr
 305 310 315 320

Lys Lys Ser Ser Arg Asp Gly
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<212> DNA

<213> Mus musculus

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<308> AF121972

<309> 1999-04-25

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<222> (138)..(1112)

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gaattgggat taaactc atg tct ctt ttt ccc caa aga aat tta gat gcc 170

Met Ser Leu Phe Pro Gln Arg Asn Leu Asp Ala

1 5 10

atg aac aga tca gca gca cat gta acc gaa ttt gtt ctc ttg gga ttt 218

Met Asn Arg Ser Ala Ala His Val Thr Glu Phe Val Leu Leu Gly Phe

15 20 25

cct ggt tcc tgg aag ata cag att ttc ctc ttc gtg ttg ttt ttg gtg 266

Pro Gly Ser Trp Lys Ile Gln Ile Phe Leu Phe Val Leu Phe Leu Val

30 35 40

ttt tat gtc ttg aca ttg ttg gga aat gga gcc atc atc tgt gca gta 314

Phe Tyr Val Leu Thr Leu Leu Gly Asn Gly Ala Ile Ile Cys Ala Val

45 50 55

aga tgt gac tca cgt cta cat acc ccc atg tac ttc ctc ctg gga aat 362

Arg Cys Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Gly Asn

60 65 70 75

ttt tcc ttc ctt gaa atc tgg tat gtt tcc tcc act att cct aac ata 410

Phe Ser Phe Leu Glu Ile Trp Tyr Val Ser Ser Thr Ile Pro Asn Ile

80

85

90

cta gcc aac att ctg tct aag acc aag gcc atc tca ttt tca ggg tgc 458

Leu Ala Asn Ile Leu Ser Lys Thr Lys Ala Ile Ser Phe Ser Gly Cys

95

100

105

ttc ctg cag ttc tat ttc ttc ttt tca ctg ggt aca act gaa tgt ctc 506

Phe Leu Gln Phe Tyr Phe Phe Phe Ser Leu Gly Thr Thr Glu Cys Leu

110

115

120

ttc ctg gca gta atg gct tat gat agg tac ctg gcc att tgc cgc cca 554

Phe Leu Ala Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg Pro

125

130

135

tta cat tac cct act atc atg act agg agg ctg tgt tgc att ctg gta 602

Leu His Tyr Pro Thr Ile Met Thr Arg Arg Leu Cys Cys Ile Leu Val

140

145

150

155

tcc tca tgc tgg ctc att gga ttt ctt ggg tac cca atc cct atc ttc 650

Ser Ser Cys Trp Leu Ile Gly Phe Leu Gly Tyr Pro Ile Pro Ile Phe

160

165

170

tcc att tcc cag ctt ccc ttc tgt ggt tct aat atc att gat cac ttc 698

Ser Ile Ser Gln Leu Pro Phe Cys Gly Ser Asn Ile Ile Asp His Phe

175

180

185

ctc tgt gac atg gac cca ttg atg gct ttg tcc tgt gcc cca gct cct 746

Leu Cys Asp Met Asp Pro Leu Met Ala Leu Ser Cys Ala Pro Ala Pro

190

195

200

att act gaa ttt att ttt tat gcc caa agt tcc ttt gtc ctc ttt ttc 794

Ile Thr Glu Phe Ile Phe Tyr Ala Gln Ser Ser Phe Val Leu Phe Phe

205

210

215

act att gca tac att ctt cgg tcc tat att ttg ttg ctc agg gct gtt 842
 Thr Ile Ala Tyr Ile Leu Arg Ser Tyr Ile Leu Leu Leu Arg Ala Val
 220 225 230 235

ttt cag gtt cct tct gca gct ggc cga cga aaa gcc ttc tct acc tgt 890
 Phe Gln Val Pro Ser Ala Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys
 240 245 250

ggg tcc cat tta gtt gtg gtg tca ctc ttc tat ggt aca gta atg gta 938
 Gly Ser His Leu Val Val Val Ser Leu Phe Tyr Gly Thr Val Met Val
 255 260 265

atg tat gtg agt cct aca tat ggc att cca att ttg atg cag aag atc 986
 Met Tyr Val Ser Pro Thr Tyr Gly Ile Pro Ile Leu Met Gln Lys Ile
 270 275 280

ctt aca ctt gta tac tct gta atg act cct ctc ttt aat cct ctg att 1034
 Leu Thr Leu Val Tyr Ser Val Met Thr Pro Leu Phe Asn Pro Leu Ile
 285 290 295

tat agc ctt cgt aac aag gac atg aaa ctt gct ctg aga aat gtt ttg 1082
 Tyr Ser Leu Arg Asn Lys Asp Met Lys Leu Ala Leu Arg Asn Val Leu
 300 305 310 315

tta gga atg aga att gtc aaa aat atg taa ttcaaagctg ttccatactc 1132
 Leu Gly Met Arg Ile Val Lys Asn Met
 320

acatgttcta ataaagaaaa aactggagat gaatcaattc attcagttgt ctttaccctt 1192

tgttctatgt ttttgagaca ctgtctcatg tggccctggc tagcctcaaa ctcattctct 1252

agccaaggat gaccttgcaa agatcactta tgtatactct catatcatct gccaatagtg 1312

ataccttgac ctc 1325

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Ala His Val Thr Glu Phe Val Leu Leu Gly Phe Pro Gly Ser Trp Lys
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Ile Gln Ile Phe Leu Phe Val Leu Phe Leu Val Phe Tyr Val Leu Thr
35 40 45

Leu Leu Gly Asn Gly Ala Ile Ile Cys Ala Val Arg Cys Asp Ser Arg
50 55 60

Leu His Thr Pro Met Tyr Phe Leu Leu Gly Asn Phe Ser Phe Leu Glu
65 70 75 80

Ile Trp Tyr Val Ser Ser Thr Ile Pro Asn Ile Leu Ala Asn Ile Leu
85 90 95

Ser Lys Thr Lys Ala Ile Ser Phe Ser Gly Cys Phe Leu Gln Phe Tyr
100 105 110

Phe Phe Phe Ser Leu Gly Thr Thr Glu Cys Leu Phe Leu Ala Val Met
115 120 125

Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg Pro Leu His Tyr Pro Thr
130 135 140

Ile Met Thr Arg Arg Leu Cys Cys Ile Leu Val Ser Ser Cys Trp Leu
145 150 155 160

Ile Gly Phe Leu Gly Tyr Pro Ile Pro Ile Phe Ser Ile Ser Gln Leu
165 170 175

Pro Phe Cys Gly Ser Asn Ile Ile Asp His Phe Leu Cys Asp Met Asp
180 185 190

Pro Leu Met Ala Leu Ser Cys Ala Pro Ala Pro Ile Thr Glu Phe Ile
195 200 205

Phe Tyr Ala Gln Ser Ser Phe Val Leu Phe Phe Thr Ile Ala Tyr Ile
210 215 220

Leu Arg Ser Tyr Ile Leu Leu Leu Arg Ala Val Phe Gln Val Pro Ser
225 230 235 240

Ala Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Gly Ser His Leu Val
245 250 255

Val Val Ser Leu Phe Tyr Gly Thr Val Met Val Met Tyr Val Ser Pro
260 265 270

Thr Tyr Gly Ile Pro Ile Leu Met Gln Lys Ile Leu Thr Leu Val Tyr
275 280 285

Ser Val Met Thr Pro Leu Phe Asn Pro Leu Ile Tyr Ser Leu Arg Asn
290 295 300

Lys Asp Met Lys Leu Ala Leu Arg Asn Val Leu Leu Gly Met Arg Ile
305 310 315 320

Val Lys Asn Met

<210> 17
<211> 1134
<212> DNA
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Met Leu Gly Trp

1

agc aat ggc acc tac aat gag tcc tac acc agc ttc ctc ctc atg ggc 165

Ser Asn Gly Thr Tyr Asn Glu Ser Tyr Thr Ser Phe Leu Leu Met Gly

5 10 15 20

ttc cca ggg atg cag gaa gcc aga gcc ctc ctg gtg ctg ccc ttc ctc 213

Phe Pro Gly Met Gln Glu Ala Arg Ala Leu Leu Val Leu Pro Phe Leu

25 30 35

agc ctc tac ctg gtg atc ctc ttc acc aat gcc ctg gtc atc cac acg 261

Ser Leu Tyr Leu Val Ile Leu Phe Thr Asn Ala Leu Val Ile His Thr

40 45 50

gtg gca tcc cag cgc agc ctg cac cag ccc atg tac ctg ctc att gcc 309

Val Ala Ser Gln Arg Ser Leu His Gln Pro Met Tyr Leu Leu Ile Ala

55 60 65

ctg ctc ctg gct gtc aat atc tgt gct gcc acc acg gtg ctg ccc ccc 357

Leu Leu Leu Ala Val Asn Ile Cys Ala Ala Thr Thr Val Leu Pro Pro

70 75 80

atg ctc ttc agc ttc tcc aca cgc ttc aac cgc atc tcc ctc cct cga 405

Met Leu Phe Ser Phe Ser Thr Arg Phe Asn Arg Ile Ser Leu Pro Arg

85 90 95 100

tgc ttg gga cag atg ttc tgc atc tac ttt ctg gtt tct atg gac tgc 453

Cys Leu Gly Gln Met Phe Cys Ile Tyr Phe Leu Val Ser Met Asp Cys
 105 110 115

aac atc ctc ctg gtc atg gct cta gat cgc tat gtg gct atc tgc tac 501
 Asn Ile Leu Leu Val Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Tyr
 120 125 130

cct ctc cgc tac cca gaa ata gtg aca gga cag tta ctg gct ggt ctg 549
 Pro Leu Arg Tyr Pro Glu Ile Val Thr Gly Gln Leu Leu Ala Gly Leu
 135 140 145

gtg gtg ttg gca gtc acc agg agc aca agc att gtt gct cca gtg gtg 597
 Val Val Leu Ala Val Thr Arg Ser Thr Ser Ile Val Ala Pro Val Val
 150 155 160

gtg ctg gcc tcg cgg gtt cgc ttc tgc cgc tca gat gtg atc cgc cac 645
 Val Leu Ala Ser Arg Val Arg Phe Cys Arg Ser Asp Val Ile Arg His
 165 170 175 180

ttt gcc tgt gag cac atg gcc ctg atg aag ctc tcc tgt gga gac atc 693
 Phe Ala Cys Glu His Met Ala Leu Met Lys Leu Ser Cys Gly Asp Ile
 185 190 195

tcg ctg aat aaa acg gcg gga ctc att att cga acc ttt aat aga gtc 741
 Ser Leu Asn Lys Thr Ala Gly Leu Ile Ile Arg Thr Phe Asn Arg Val
 200 205 210

ctg gat atg ctc ctt cta ggc acc tcc tac tcc cgc atc atc cat gct 789
 Leu Asp Met Leu Leu Leu Gly Thr Ser Tyr Ser Arg Ile Ile His Ala
 215 220 225

gcc ttc agg atc tca tca ggt gga gca cgg tcc aaa gcc ctg aac acc 837
 Ala Phe Arg Ile Ser Ser Gly Gly Ala Arg Ser Lys Ala Leu Asn Thr
 230 235 240

tgt ggt tcc cac ctg ctg gtc atc ttc acc gtc tac tcc tcc acc atg 885

Cys Gly Ser His Leu Leu Val Ile Phe Thr Val Tyr Ser Ser Thr Met
 245 250 255 260

tcc tca tcc att gtc tac cgt gtg gct cgc act gcc tcc caa gat gtg 933
 Ser Ser Ser Ile Val Tyr Arg Val Ala Arg Thr Ala Ser Gln Asp Val
 265 270 275

cac aac ctg ctc agt gct ttc tat ctg ttg ctc ccg tgt ctg gtc aac 981
 His Asn Leu Leu Ser Ala Phe Tyr Leu Leu Leu Pro Cys Leu Val Asn
 280 285 290

ccc atc atc tac ggg gcc aga acc aag gaa atc agg cag cac ctg gta 1029
 Pro Ile Ile Tyr Gly Ala Arg Thr Lys Glu Ile Arg Gln His Leu Val
 295 300 305

agg tca ttc ctg agt gca ggc ccc tga ctctctatg atcagtcggt 1076
 Arg Ser Phe Leu Ser Ala Gly Pro
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gttgcccct cagtattcct ggtgaaactg aggaaggaag aaatggagtc agagggac 1134

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<213> Mus musculus

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Leu Pro Phe Leu Ser Leu Tyr Leu Val Ile Leu Phe Thr Asn Ala Leu
 35 40 45

Val Ile His Thr Val Ala Ser Gln Arg Ser Leu His Gln Pro Met Tyr
 50 55 60

Leu Leu Ile Ala Leu Leu Leu Ala Val Asn Ile Cys Ala Ala Thr Thr
 65 70 75 80

Val Leu Pro Pro Met Leu Phe Ser Phe Ser Thr Arg Phe Asn Arg Ile
 85 90 95

Ser Leu Pro Arg Cys Leu Gly Gln Met Phe Cys Ile Tyr Phe Leu Val
 100 105 110

Ser Met Asp Cys Asn Ile Leu Leu Val Met Ala Leu Asp Arg Tyr Val
 115 120 125

Ala Ile Cys Tyr Pro Leu Arg Tyr Pro Glu Ile Val Thr Gly Gln Leu
 130 135 140

Leu Ala Gly Leu Val Val Leu Ala Val Thr Arg Ser Thr Ser Ile Val
 145 150 155 160

Ala Pro Val Val Val Leu Ala Ser Arg Val Arg Phe Cys Arg Ser Asp
 165 170 175

Val Ile Arg His Phe Ala Cys Glu His Met Ala Leu Met Lys Leu Ser
180 185 190

Cys Gly Asp Ile Ser Leu Asn Lys Thr Ala Gly Leu Ile Ile Arg Thr
195 200 205

Phe Asn Arg Val Leu Asp Met Leu Leu Leu Gly Thr Ser Tyr Ser Arg
210 215 220

Ile Ile His Ala Ala Phe Arg Ile Ser Ser Gly Gly Ala Arg Ser Lys
225 230 235 240

Ala Leu Asn Thr Cys Gly Ser His Leu Leu Val Ile Phe Thr Val Tyr
245 250 255

Ser Ser Thr Met Ser Ser Ser Ile Val Tyr Arg Val Ala Arg Thr Ala
260 265 270

Ser Gln Asp Val His Asn Leu Leu Ser Ala Phe Tyr Leu Leu Leu Pro
275 280 285

Cys Leu Val Asn Pro Ile Ile Tyr Gly Ala Arg Thr Lys Glu Ile Arg
290 295 300

Gln His Leu Val Arg Ser Phe Leu Ser Ala Gly Pro
305 310 315

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 ggataagcct gctttttat actaagttgg cattataaaa aagcattgct tatcaatttg 180
 ttgcaacgaa caggtcacta tcagtcaaaa taaatcatt atttgatttc aattttgtcc 240
 cactccctgc ctctgtcatc acgatactgt gatgccatgg tgtccgactt atg ccc 296
 Met Pro
 1
 gag aag atg ttg agc aaa ctt atc gct tat ctg ctt ctc ata gag tct 344
 Glu Lys Met Leu Ser Lys Leu Ile Ala Tyr Leu Leu Leu Ile Glu Ser
 5 10 15
 tgc aga caa act gcg caa ctc gtg aaa ggt agg cgg atc tgg gtc gac 392
 Cys Arg Gln Thr Ala Gln Leu Val Lys Gly Arg Arg Ile Trp Val Asp
 20 25 30

tct agg cct cac tgg cct aat acg act cac tat agg gag ctc gag gat 440

Ser Arg Pro His Trp Pro Asn Thr Thr His Tyr Arg Glu Leu Glu Asp

35 40 45 50

cag cat gtt tgg att gct att ccc ttc tgc tcc atg tac atc ctt gct 488

Gln His Val Trp Ile Ala Ile Pro Phe Cys Ser Met Tyr Ile Leu Ala

55 60 65

ctg gtt gga aat ggt acc atc ctc tat atc att ata aca gac agg gct 536

Leu Val Gly Asn Gly Thr Ile Leu Tyr Ile Ile Ile Thr Asp Arg Ala

70 75 80

ctc cat gag cca atg tac ctc ttc ttg tgt ctg ctt tct atc act gat 584

Leu His Glu Pro Met Tyr Leu Phe Leu Cys Leu Leu Ser Ile Thr Asp

85 90 95

ctg gtt ctc tgt tca aca aca ttg cct aaa atg ctg gca ata ttc tgg 632

Leu Val Leu Cys Ser Thr Thr Leu Pro Lys Met Leu Ala Ile Phe Trp

100 105 110

ctc aga tcc cat gtc att tcc tac cat ggc tgc ctc act cag atg ttt 680

Leu Arg Ser His Val Ile Ser Tyr His Gly Cys Leu Thr Gln Met Phe

115 120 125 130

ttt gta cat gca gtc ttt gcc aca gag tca gct gtt ctg ctg gcc atg 728

Phe Val His Ala Val Phe Ala Thr Glu Ser Ala Val Leu Leu Ala Met

135 140 145

gct ttt gat cga tat gtt gct atc tgc aga cca ctc cac tat aca tcc 776

Ala Phe Asp Arg Tyr Val Ala Ile Cys Arg Pro Leu His Tyr Thr Ser

150 155 160

atc ctc aat gct gtt gta att ggg aag att ggc ctg gca tgc gtg act 824

Ile Leu Asn Ala Val Val Ile Gly Lys Ile Gly Leu Ala Cys Val Thr

165 170 175

cgt ggc ctt ctc ttt gtc ttc ccc ttt gtc att ctc att gaa cgt tta 872
 Arg Gly Leu Leu Phe Val Phe Pro Phe Val Ile Leu Ile Glu Arg Leu
 180 185 190

ccc ttc tgt gga cat cat ata atc cct cac act tac tgt gag cac atg 920
 Pro Phe Cys Gly His His Ile Ile Pro His Thr Tyr Cys Glu His Met
 195 200 205 210

ggc ata gcc aag ctc gcc tgt gcc agc atc aag cct aac acc atc tat 968
 Gly Ile Ala Lys Leu Ala Cys Ala Ser Ile Lys Pro Asn Thr Ile Tyr
 215 220 225

ggc ctt act gta gca ctt tca gtc act ggc atg gat gtg gtc ctc att 1016
 Gly Leu Thr Val Ala Leu Ser Val Thr Gly Met Asp Val Val Leu Ile
 230 235 240

gca acc tcc tac atc ctg att ctg cag gcc gtg ctg cga ctg ccc tca 1064
 Ala Thr Ser Tyr Ile Leu Ile Leu Gln Ala Val Leu Arg Leu Pro Ser
 245 250 255

aag gat gcc cag ttc cga gca ttc agc aca tgt gga gcc cac att tgt 1112
 Lys Asp Ala Gln Phe Arg Ala Phe Ser Thr Cys Gly Ala His Ile Cys
 260 265 270

gta att ctt gtc ttc tat atc ccc gca ttc ttt tca ttt ttc act cac 1160
 Val Ile Leu Val Phe Tyr Ile Pro Ala Phe Phe Ser Phe Phe Thr His
 275 280 285 290

cgc ttt ggt cac cac gtg cct cct cag gta cac atc ata ctt gca aat 1208
 Arg Phe Gly His His Val Pro Pro Gln Val His Ile Ile Leu Ala Asn
 295 300 305

ctt tat ctc ctt gtg cct cct gtt ctc aac ccc cta gtc tat ggc atc 1256
 Leu Tyr Leu Leu Val Pro Pro Val Leu Asn Pro Leu Val Tyr Gly Ile
 310 315 320

aat acc aaa caa atc cgc ctg aga ata ctt gac ttt ttt gta aag aga 1304

Asn Thr Lys Gln Ile Arg Leu Arg Ile Leu Asp Phe Phe Val Lys Arg

325

330

335

agg tga caataatctc cacatatacc aaaggctaag gagttcctgg ctttagtttg 1360

Arg

ctgcttctgc tgatctcagt aagtcagttg atgtacattt aagattttga gatctagagc 1420

a

1421

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<213> Mus musculus

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20

25

30

Val Asp Ser Arg Pro His Trp Pro Asn Thr Thr His Tyr Arg Glu Leu

35

40

45

Glu Asp Gln His Val Trp Ile Ala Ile Pro Phe Cys Ser Met Tyr Ile

50

55

60

Leu Ala Leu Val Gly Asn Gly Thr Ile Leu Tyr Ile Ile Ile Thr Asp
 65 70 75 80

Arg Ala Leu His Glu Pro Met Tyr Leu Phe Leu Cys Leu Leu Ser Ile
 85 90 95

Thr Asp Leu Val Leu Cys Ser Thr Thr Leu Pro Lys Met Leu Ala Ile
 100 105 110

Phe Trp Leu Arg Ser His Val Ile Ser Tyr His Gly Cys Leu Thr Gln
 115 120 125

Met Phe Phe Val His Ala Val Phe Ala Thr Glu Ser Ala Val Leu Leu
 130 135 140

Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys Arg Pro Leu His Tyr
 145 150 155 160

Thr Ser Ile Leu Asn Ala Val Val Ile Gly Lys Ile Gly Leu Ala Cys
 165 170 175

Val Thr Arg Gly Leu Leu Phe Val Phe Pro Phe Val Ile Leu Ile Glu
 180 185 190

Arg Leu Pro Phe Cys Gly His His Ile Ile Pro His Thr Tyr Cys Glu
 195 200 205

His Met Gly Ile Ala Lys Leu Ala Cys Ala Ser Ile Lys Pro Asn Thr
210 215 220

Ile Tyr Gly Leu Thr Val Ala Leu Ser Val Thr Gly Met Asp Val Val
225 230 235 240

Leu Ile Ala Thr Ser Tyr Ile Leu Ile Leu Gln Ala Val Leu Arg Leu
245 250 255

Pro Ser Lys Asp Ala Gln Phe Arg Ala Phe Ser Thr Cys Gly Ala His
260 265 270

Ile Cys Val Ile Leu Val Phe Tyr Ile Pro Ala Phe Phe Ser Phe Phe
275 280 285

Thr His Arg Phe Gly His His Val Pro Pro Gln Val His Ile Ile Leu
290 295 300

Ala Asn Leu Tyr Leu Leu Val Pro Pro Val Leu Asn Pro Leu Val Tyr
305 310 315 320

Gly Ile Asn Thr Lys Gln Ile Arg Leu Arg Ile Leu Asp Phe Phe Val
325 330 335

Lys Arg Arg

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 <211> 930
 <212> DNA
 <213> M.musculus

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 <309> 1996-07-01
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ttc tcc agc ttt gga aag cat cag ata acc ctc ttt gtg gtt ttc cta 96
 Phe Ser Ser Phe Gly Lys His Gln Ile Thr Leu Phe Val Val Phe Leu
 20 25 30

acc atc tac att tta act ctg gct ggc aac atc att ata gtg aca atc 144
 Thr Ile Tyr Ile Leu Thr Leu Ala Gly Asn Ile Ile Ile Val Thr Ile
 35 40 45

aca cac ata gac cac cac ctt cac act ccc atg tac ttc ttt ctg agc 192
 Thr His Ile Asp His His Leu His Thr Pro Met Tyr Phe Phe Leu Ser
 50 55 60

atg ttg gca agc tca gag act gtg tac aca ctg gtc att gtc cca cga 240
 Met Leu Ala Ser Ser Glu Thr Val Tyr Thr Leu Val Ile Val Pro Arg
 65 70 75 80

atg ctt tcc agc ctg att ttt tac aac ctt ccc ata tcc ttg gca ggc 288

Met Leu Ser Ser Leu Ile Phe Tyr Asn Leu Pro Ile Ser Leu Ala Gly

85

90

95

tgc gca acc caa atg ttc ttt ttt gtc act ttg gcc acc aac aac tgc 336

Cys Ala Thr Gln Met Phe Phe Phe Val Thr Leu Ala Thr Asn Asn Cys

100

105

110

ttt ctg ctc aca gca atg ggt tat gat cgt tat gtg gct att tgt aat 384

Phe Leu Leu Thr Ala Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys Asn

115

120

125

cct ctg aga tat aca atc atc atg agc aag gga atg tgt gcc ttg ttg 432

Pro Leu Arg Tyr Thr Ile Ile Met Ser Lys Gly Met Cys Ala Leu Leu

130

135

140

gtc tgt ggg tct tta ggc act ggc ctg gtt atg gca gtt ctt cat gtg 480

Val Cys Gly Ser Leu Gly Thr Gly Leu Val Met Ala Val Leu His Val

145

150

155

160

cca gcc atg ttc cat ttg ccc ttt tgt ggc acg gtg gtg gag cac ttt 528

Pro Ala Met Phe His Leu Pro Phe Cys Gly Thr Val Val Glu His Phe

165

170

175

ttc tgt gac ata tac cca gta atg aag ctt tct tgt gtt gat acc act 576

Phe Cys Asp Ile Tyr Pro Val Met Lys Leu Ser Cys Val Asp Thr Thr

180

185

190

gtc aat gag ata atc aat tat ggt gta agt tca ttt gta att ctt gtg 624

Val Asn Glu Ile Ile Asn Tyr Gly Val Ser Ser Phe Val Ile Leu Val

195

200

205

ccc ata ggg ctg ata ttt atc tcc tat gtg ctc att gtc tct tcc atc 672

Pro Ile Gly Leu Ile Phe Ile Ser Tyr Val Leu Ile Val Ser Ser Ile

210

215

220

ctt aaa att gtg tcc act gaa ggc cag aag aaa gcc ttt gcc acc tgt 720

Leu Lys Ile Val Ser Thr Glu Gly Gln Lys Lys Ala Phe Ala Thr Cys

225 230 235 240

gcc tct cat ctc act gtg gtc att gtc cac tat ggc tgt gcc tcc att 768

Ala Ser His Leu Thr Val Val Ile Val His Tyr Gly Cys Ala Ser Ile

245 250 255

gcc tac ctc aaa ccc aaa tca gaa agt tca gta gaa aaa gac ctt ctt 816

Ala Tyr Leu Lys Pro Lys Ser Glu Ser Ser Val Glu Lys Asp Leu Leu

260 265 270

ctc tct gtg acc tac act atc atc act ccc ttg ctg aac cct gtt gtc 864

Leu Ser Val Thr Tyr Thr Ile Ile Thr Pro Leu Leu Asn Pro Val Val

275 280 285

tac agc ctc agg aac aaa gaa gtc aaa gat gct cta tgc aga gct gtg 912

Tyr Ser Leu Arg Asn Lys Glu Val Lys Asp Ala Leu Cys Arg Ala Val

290 295 300

ggc aga aac act tct taa

930

Gly Arg Asn Thr Ser

305

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<211> 309

<212> PRT

<213> M.musculus

<400> 22

Met Gln Arg Asn Asn Phe Thr Glu Val Ile Glu Phe Val Phe Leu Gly

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Phe Ser Ser Phe Gly Lys His Gln Ile Thr Leu Phe Val Val Phe Leu
20 25 30

Thr Ile Tyr Ile Leu Thr Leu Ala Gly Asn Ile Ile Ile Val Thr Ile
35 40 45

Thr His Ile Asp His His Leu His Thr Pro Met Tyr Phe Phe Leu Ser
50 55 60

Met Leu Ala Ser Ser Glu Thr Val Tyr Thr Leu Val Ile Val Pro Arg
65 70 75 80

Met Leu Ser Ser Leu Ile Phe Tyr Asn Leu Pro Ile Ser Leu Ala Gly
85 90 95

Cys Ala Thr Gln Met Phe Phe Phe Val Thr Leu Ala Thr Asn Asn Cys
100 105 110

Phe Leu Leu Thr Ala Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys Asn
115 120 125

Pro Leu Arg Tyr Thr Ile Ile Met Ser Lys Gly Met Cys Ala Leu Leu
130 135 140

Val Cys Gly Ser Leu Gly Thr Gly Leu Val Met Ala Val Leu His Val
145 150 155 160

Pro Ala Met Phe His Leu Pro Phe Cys Gly Thr Val Val Glu His Phe
165 170 175

Phe Cys Asp Ile Tyr Pro Val Met Lys Leu Ser Cys Val Asp Thr Thr
180 185 190

Val Asn Glu Ile Ile Asn Tyr Gly Val Ser Ser Phe Val Ile Leu Val
195 200 205

Pro Ile Gly Leu Ile Phe Ile Ser Tyr Val Leu Ile Val Ser Ser Ile
210 215 220

Leu Lys Ile Val Ser Thr Glu Gly Gln Lys Lys Ala Phe Ala Thr Cys
225 230 235 240

Ala Ser His Leu Thr Val Val Ile Val His Tyr Gly Cys Ala Ser Ile
245 250 255

Ala Tyr Leu Lys Pro Lys Ser Glu Ser Ser Val Glu Lys Asp Leu Leu
260 265 270

Leu Ser Val Thr Tyr Thr Ile Ile Thr Pro Leu Leu Asn Pro Val Val
275 280 285

Tyr Ser Leu Arg Asn Lys Glu Val Lys Asp Ala Leu Cys Arg Ala Val
290 295 300

Gly Arg Asn Thr Ser

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<309> 2001-09-07

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<222> (1)..(957)

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Met Ile Leu Ser Glu Lys Asn Asn Ser Gly Ile Ile Phe Thr Leu Leu

1 5 10 15

ggc ttc tca gat tat cct gac ctt aaa gtc cct ctc ttc ttg gtg ttt 96

Gly Phe Ser Asp Tyr Pro Asp Leu Lys Val Pro Leu Phe Leu Val Phe

20 25 30

ctc gtc att tac agc atc act gtg gta gga aat att ggt atg atc ctc 144

Leu Val Ile Tyr Ser Ile Thr Val Val Gly Asn Ile Gly Met Ile Leu

35 40 45

gtg atc aga att aat ccc caa ctg cac tcc cct atg tac ttc ttc ctc 192

Val Ile Arg Ile Asn Pro Gln Leu His Ser Pro Met Tyr Phe Phe Leu

50 55 60

agc cac ctc tcc ttt gtg gat ttc tgc tat tct tcg atc att gct ccc 240
 Ser His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Ala Pro
 65 70 75 80

aag atg ctg gtg aac ctt gtt gca aaa gac ata acc att tca ttt gta 288
 Lys Met Leu Val Asn Leu Val Ala Lys Asp Ile Thr Ile Ser Phe Val
 85 90 95

gaa tgc ata gta caa tat ttt tta ttt tgt gtc ttt gta gta act gaa 336
 Glu Cys Ile Val Gln Tyr Phe Leu Phe Cys Val Phe Val Val Thr Glu
 100 105 110

gcc ttt tta tta gtg gtt atg gca tat gac cga ttt gtg gct atc tgt 384
 Ala Phe Leu Leu Val Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys
 115 120 125

aac cct ctg ctc tac aca gta gcc atg tcc cag aaa ctc tgt atc aca 432
 Asn Pro Leu Leu Tyr Thr Val Ala Met Ser Gln Lys Leu Cys Ile Thr
 130 135 140

ctg gtg gtg gga tcc tac gca tgg ggg ttc aca tgt tcc ttg aca ctg 480
 Leu Val Val Gly Ser Tyr Ala Trp Gly Phe Thr Cys Ser Leu Thr Leu
 145 150 155 160

acg tgt tct act gtg caa tta tct ttt cat ggt gtc aat agg atc gat 528
 Thr Cys Ser Thr Val Gln Leu Ser Phe His Gly Val Asn Arg Ile Asp
 165 170 175

cac ttc ttc tgt gaa ctc tct tca ctg cta gcc ctt tct tcc tct gat 576
 His Phe Phe Cys Glu Leu Ser Ser Leu Leu Ala Leu Ser Ser Ser Asp
 180 185 190

act ctc atc agt caa tta ctg ctg ttt gtc ttt gcc aca ttt aat gct 624
 Thr Leu Ile Ser Gln Leu Leu Leu Phe Val Phe Ala Thr Phe Asn Ala
 195 200 205

gtc agc aca tta ctc ctt att ctg ttg tct tac ctg ttc att gtt gtc 672
 Val Ser Thr Leu Leu Leu Ile Leu Leu Ser Tyr Leu Phe Ile Val Val
 210 215 220

act gtt ctt aag atg cgt tca gcc agt ggg cgt cgt aag gct ttc tcc 720
 Thr Val Leu Lys Met Arg Ser Ala Ser Gly Arg Arg Lys Ala Phe Ser
 225 230 235 240

acc tgt gca tcc cat ctg gca gcc atc act atc ttc cat ggt acc att 768
 Thr Cys Ala Ser His Leu Ala Ala Ile Thr Ile Phe His Gly Thr Ile
 245 250 255

tta ttc ctt ttt tgt gtt ccc aac tct aag aat tcc agg ctc aca gtc 816
 Leu Phe Leu Phe Cys Val Pro Asn Ser Lys Asn Ser Arg Leu Thr Val
 260 265 270

aaa gtg ggc tct gtg ttt tac aca gtg gtg atc ccc atg ctt aac ccc 864
 Lys Val Gly Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro
 275 280 285

ata atc tat agt ctg aga aat aag gat gtc caa gat act att aga aaa 912
 Ile Ile Tyr Ser Leu Arg Asn Lys Asp Val Gln Asp Thr Ile Arg Lys
 290 295 300

ata atg acc ctt atc tca tgt gtt aag aat gat aga cac aat taa 957
 Ile Met Thr Leu Ile Ser Cys Val Lys Asn Asp Arg His Asn
 305 310 315

<210> 24

<211> 318

<212> PRT

<213> Mus musculus

<400> 24

Met Ile Leu Ser Glu Lys Asn Asn Ser Gly Ile Ile Phe Thr Leu Leu

1 5 10 15

Gly Phe Ser Asp Tyr Pro Asp Leu Lys Val Pro Leu Phe Leu Val Phe

20 25 30

Leu Val Ile Tyr Ser Ile Thr Val Val Gly Asn Ile Gly Met Ile Leu

35 40 45

Val Ile Arg Ile Asn Pro Gln Leu His Ser Pro Met Tyr Phe Phe Leu

50 55 60

Ser His Leu Ser Phe Val Asp Phe Cys Tyr Ser Ser Ile Ile Ala Pro

65 70 75 80

Lys Met Leu Val Asn Leu Val Ala Lys Asp Ile Thr Ile Ser Phe Val

85 90 95

Glu Cys Ile Val Gln Tyr Phe Leu Phe Cys Val Phe Val Val Thr Glu

100 105 110

Ala Phe Leu Leu Val Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys

115 120 125

Asn Pro Leu Leu Tyr Thr Val Ala Met Ser Gln Lys Leu Cys Ile Thr

130 135 140

Leu Val Val Gly Ser Tyr Ala Trp Gly Phe Thr Cys Ser Leu Thr Leu
145 150 155 160

Thr Cys Ser Thr Val Gln Leu Ser Phe His Gly Val Asn Arg Ile Asp
165 170 175

His Phe Phe Cys Glu Leu Ser Ser Leu Leu Ala Leu Ser Ser Ser Asp
180 185 190

Thr Leu Ile Ser Gln Leu Leu Leu Phe Val Phe Ala Thr Phe Asn Ala
195 200 205

Val Ser Thr Leu Leu Leu Ile Leu Leu Ser Tyr Leu Phe Ile Val Val
210 215 220

Thr Val Leu Lys Met Arg Ser Ala Ser Gly Arg Arg Lys Ala Phe Ser
225 230 235 240

Thr Cys Ala Ser His Leu Ala Ala Ile Thr Ile Phe His Gly Thr Ile
245 250 255

Leu Phe Leu Phe Cys Val Pro Asn Ser Lys Asn Ser Arg Leu Thr Val
260 265 270

Lys Val Gly Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro
275 280 285

Ile Ile Tyr Ser Leu Arg Asn Lys Asp Val Gln Asp Thr Ile Arg Lys
 290 295 300

Ile Met Thr Leu Ile Ser Cys Val Lys Asn Asp Arg His Asn
 305 310 315

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 <309> 2003-02-01
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atg gac aga tcc aat gag acc gcc ccc ctg tcc ggc ttc att ctc ctg 108
 Met Asp Arg Ser Asn Glu Thr Ala Pro Leu Ser Gly Phe Ile Leu Leu
 1 5 10 15

ggc ctc tct gcc cac cca aag ctg gag aaa acc ttc ttc gtg ctc atc 156
 Gly Leu Ser Ala His Pro Lys Leu Glu Lys Thr Phe Phe Val Leu Ile
 20 25 30

ctg atg atg tac ctg gtg atc ctg ctg ggc aac ggc gtc ctc atc ctg 204

Leu Met Met Tyr Leu Val Ile Leu Leu Gly Asn Gly Val Leu Ile Leu
 35 40 45

gtg agc atc ctc gac tcc cac ctg cac acg ccc atg tac ttc ttc ctg 252
 Val Ser Ile Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu
 50 55 60

ggg aac ctc tcc ttc ctg gac atc tgc tac act acc tcc tct gtc ccc 300
 Gly Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Ser Ser Val Pro
 65 70 75 80

ctc att ctg gac agc ttt ctg act ccc agg aag acc atc tcc ttc tcg 348
 Leu Ile Leu Asp Ser Phe Leu Thr Pro Arg Lys Thr Ile Ser Phe Ser
 85 90 95

ggc tgt gcc gtg cag atg ttt ctc tcc ttc gcc atg gga gcc acg gag 396
 Gly Cys Ala Val Gln Met Phe Leu Ser Phe Ala Met Gly Ala Thr Glu
 100 105 110

tgt gtg ctc ctg agt atg atg gcg ttt gat cgt tat gtg gcc atc tgc 444
 Cys Val Leu Leu Ser Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys
 115 120 125

aac ccc ctt aga tat cct gtg gtc atg aac aag gct gcc tat gtg ccc 492
 Asn Pro Leu Arg Tyr Pro Val Val Met Asn Lys Ala Ala Tyr Val Pro
 130 135 140

atg gct gcc agt tcc tgg gca ggt ggt atc act aat tct gta gtg cag 540
 Met Ala Ala Ser Ser Trp Ala Gly Gly Ile Thr Asn Ser Val Val Gln
 145 150 155 160

aca tct ttg gca atg cgg ctg ccc ttc tgt ggg gac aat gtc atc aat 588
 Thr Ser Leu Ala Met Arg Leu Pro Phe Cys Gly Asp Asn Val Ile Asn
 165 170 175

cac ttc acc tgt gag atc ctg gca gtc ctg aaa ctg gcc tgt gct gac 636

His Phe Thr Cys Glu Ile Leu Ala Val Leu Lys Leu Ala Cys Ala Asp
 180 185 190

atc tcc atc aat gtc atc agc atg gtt gtg gcc aac atg atc ttc ttg 684
 Ile Ser Ile Asn Val Ile Ser Met Val Val Ala Asn Met Ile Phe Leu
 195 200 205

gca gtc cca gtc ctc ttc atc ttt gtc tcc tat gtc ttc atc ctt gtg 732
 Ala Val Pro Val Leu Phe Ile Phe Val Ser Tyr Val Phe Ile Leu Val
 210 215 220

aca atc ctg agg atc ccc tct gct gag ggg agg aag aag gcc ttc tcc 780
 Thr Ile Leu Arg Ile Pro Ser Ala Glu Gly Arg Lys Lys Ala Phe Ser
 225 230 235 240

acc tgc tct gcc cac ctc acc gtg gta ctt gtc ttc tat gga acc atc 828
 Thr Cys Ser Ala His Leu Thr Val Val Leu Val Phe Tyr Gly Thr Ile
 245 250 255

ctc ttc atg tac ggg aag ccc aag tcc aag gac cca ctg ggg gca gac 876
 Leu Phe Met Tyr Gly Lys Pro Lys Ser Lys Asp Pro Leu Gly Ala Asp
 260 265 270

aag cag gac ctt gca gac aag ctc atc tcc ctc ttc tat gga gtg gtg 924
 Lys Gln Asp Leu Ala Asp Lys Leu Ile Ser Leu Phe Tyr Gly Val Val
 275 280 285

acc ccc atg cta aac ccc atc atc tac agc ttg aga aac aag gac gtg 972
 Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Asp Val
 290 295 300

agg gct gct gtg agg aac ctg gtg ggc cag aaa cac cta act gag tga 1020
 Arg Ala Ala Val Arg Asn Leu Val Gly Gln Lys His Leu Thr Glu
 305 310 315

ctgtcacagt gcagaacttc caacctcttc attgtgtttg tgagggaaga gtggtgcaat 1080

gaagaggagc cacttcccca aggtccaagt aatgaactca gaactaagac tataaacaaa 1140

ctatcaacgt tccttaagca ccaatgcttc tagttaacag gctggaagga caagccttta 1200

cacctttgga gagaatggct gggtgtcagc ttgtgttca accttagtgg cgtcgtagaa 1260

ctactctttc atgaccagag gctggcacag atctctggaa agatgctgac atgcataact 1320

aggagacaga tgcaaagcct gggt 1344

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<213> Mus musculus

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Gly Leu Ser Ala His Pro Lys Leu Glu Lys Thr Phe Phe Val Leu Ile

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Leu Met Met Tyr Leu Val Ile Leu Leu Gly Asn Gly Val Leu Ile Leu

35 40 45

Val Ser Ile Leu Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu

50 55 60

Gly Asn Leu Ser Phe Leu Asp Ile Cys Tyr Thr Thr Ser Ser Val Pro

65

70

75

80

Leu Ile Leu Asp Ser Phe Leu Thr Pro Arg Lys Thr Ile Ser Phe Ser

85

90

95

Gly Cys Ala Val Gln Met Phe Leu Ser Phe Ala Met Gly Ala Thr Glu

100

105

110

Cys Val Leu Leu Ser Met Met Ala Phe Asp Arg Tyr Val Ala Ile Cys

115

120

125

Asn Pro Leu Arg Tyr Pro Val Val Met Asn Lys Ala Ala Tyr Val Pro

130

135

140

Met Ala Ala Ser Ser Trp Ala Gly Gly Ile Thr Asn Ser Val Val Gln

145

150

155

160

Thr Ser Leu Ala Met Arg Leu Pro Phe Cys Gly Asp Asn Val Ile Asn

165

170

175

His Phe Thr Cys Glu Ile Leu Ala Val Leu Lys Leu Ala Cys Ala Asp

180

185

190

Ile Ser Ile Asn Val Ile Ser Met Val Val Ala Asn Met Ile Phe Leu

195

200

205

Ala Val Pro Val Leu Phe Ile Phe Val Ser Tyr Val Phe Ile Leu Val

210

215

220

Thr Ile Leu Arg Ile Pro Ser Ala Glu Gly Arg Lys Lys Ala Phe Ser

225

230

235

240

Thr Cys Ser Ala His Leu Thr Val Val Leu Val Phe Tyr Gly Thr Ile

245

250

255

Leu Phe Met Tyr Gly Lys Pro Lys Ser Lys Asp Pro Leu Gly Ala Asp

260

265

270

Lys Gln Asp Leu Ala Asp Lys Leu Ile Ser Leu Phe Tyr Gly Val Val

275

280

285

Thr Pro Met Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Lys Asp Val

290

295

300

Arg Ala Ala Val Arg Asn Leu Val Gly Gln Lys His Leu Thr Glu

305

310

315

<210> 27

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<309> 1999-02-08

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<222> (1)..(942)

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1 5 10 15

gat gcc tgt gag ctg cag gtg ctc ata ttc ctg ggc ttt ctc ctg acc 96

Asp Ala Cys Glu Leu Gln Val Leu Ile Phe Leu Gly Phe Leu Leu Thr

20 25 30

tac ttc ctc att ctg ctg gga aac ttc ctc atc atc ttc atc acc ctt 144

Tyr Phe Leu Ile Leu Leu Gly Asn Phe Leu Ile Ile Phe Ile Thr Leu

35 40 45

gtg gac agg cgc ctt tac acc ccc atg tat tac ttc ctc cgc aac ttt 192

Val Asp Arg Arg Leu Tyr Thr Pro Met Tyr Tyr Phe Leu Arg Asn Phe

50 55 60

gcc atg ctg gag atc tgg ttc acc tct gtc atc ttc ccc aag atg cta 240

Ala Met Leu Glu Ile Trp Phe Thr Ser Val Ile Phe Pro Lys Met Leu

65 70 75 80

acc aac atc atc aca gga cat aag acc atc tcc cta cta ggt tgt ttc 288

Thr Asn Ile Ile Thr Gly His Lys Thr Ile Ser Leu Leu Gly Cys Phe

85 90 95

ctc caa gca ttc ctc tat ttc ttc ctt ggc acc act gag ttc ttt cta 336

Leu Gln Ala Phe Leu Tyr Phe Phe Leu Gly Thr Thr Glu Phe Phe Leu

100 105 110

ctg gca gtg atg tcc ttt gac agg tat gtg gcc att tgt aac cct ttg 384

Leu Ala Val Met Ser Phe Asp Arg Tyr Val Ala Ile Cys Asn Pro Leu
 115 120 125

cgt tat gcc acc att atg agc aaa aga gtc tgt gtc cag ctt gtg ttt 432
 Arg Tyr Ala Thr Ile Met Ser Lys Arg Val Cys Val Gln Leu Val Phe
 130 135 140

tgc tca tgg atg tct gga ttg ctt ctc atc ata gtt cct agt tca att 480
 Cys Ser Trp Met Ser Gly Leu Leu Leu Ile Ile Val Pro Ser Ser Ile
 145 150 155 160

gta ttt cag cag cca ttc tgt ggc cca aac atc att aat cat ttc ttc 528
 Val Phe Gln Gln Pro Phe Cys Gly Pro Asn Ile Ile Asn His Phe Phe
 165 170 175

tgt gac aac ttt cca ctt atg gaa ctc ata tgt gca gat act agc ctg 576
 Cys Asp Asn Phe Pro Leu Met Glu Leu Ile Cys Ala Asp Thr Ser Leu
 180 185 190

gta gag ttc ctg ggt ttt gtt att gcc aat ttc agc ctc ctg ggc act 624
 Val Glu Phe Leu Gly Phe Val Ile Ala Asn Phe Ser Leu Leu Gly Thr
 195 200 205

ctg gct gtg act gcc acc tgc tat ggc cac att ctc tat acc att cta 672
 Leu Ala Val Thr Ala Thr Cys Tyr Gly His Ile Leu Tyr Thr Ile Leu
 210 215 220

cac att cct tca gcc aag gag agg aag aaa gcc ttc tca act tgc tcc 720
 His Ile Pro Ser Ala Lys Glu Arg Lys Lys Ala Phe Ser Thr Cys Ser
 225 230 235 240

tct cat att att gtg gtg tct ctc ttc tac ggc agc tgt atc ttc atg 768
 Ser His Ile Ile Val Val Ser Leu Phe Tyr Gly Ser Cys Ile Phe Met
 245 250 255

tat gtc cgg tct ggc aag aat gga cag ggg gag gat cat aac aag gtg 816

Tyr Val Arg Ser Gly Lys Asn Gly Gln Gly Glu Asp His Asn Lys Val
 260 265 270

gtg gca ttg ctc aac act gta gtg aca ccc aca ctc aac ccc ttc atc 864
 Val Ala Leu Leu Asn Thr Val Val Thr Pro Thr Leu Asn Pro Phe Ile
 275 280 285

tac act ctg agg aac aag cag gtg aag cag gta ttt agg gaa cac gta 912
 Tyr Thr Leu Arg Asn Lys Gln Val Lys Gln Val Phe Arg Glu His Val
 290 295 300

agc aag ttc caa aag ttc agc cag acg tga 942
 Ser Lys Phe Gln Lys Phe Ser Gln Thr
 305 310

<210> 28

<211> 313

<212> PRT

<213> Mus musculus

<400> 28

Met Ala Asn Ser Thr Thr Val Thr Glu Phe Ile Leu Leu Gly Leu Ser
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Asp Ala Cys Glu Leu Gln Val Leu Ile Phe Leu Gly Phe Leu Leu Thr
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Tyr Phe Leu Ile Leu Leu Gly Asn Phe Leu Ile Ile Phe Ile Thr Leu
 35 40 45

Val Asp Arg Arg Leu Tyr Thr Pro Met Tyr Tyr Phe Leu Arg Asn Phe

50

55

60

Ala Met Leu Glu Ile Trp Phe Thr Ser Val Ile Phe Pro Lys Met Leu

65

70

75

80

Thr Asn Ile Ile Thr Gly His Lys Thr Ile Ser Leu Leu Gly Cys Phe

85

90

95

Leu Gln Ala Phe Leu Tyr Phe Phe Leu Gly Thr Thr Glu Phe Phe Leu

100

105

110

Leu Ala Val Met Ser Phe Asp Arg Tyr Val Ala Ile Cys Asn Pro Leu

115

120

125

Arg Tyr Ala Thr Ile Met Ser Lys Arg Val Cys Val Gln Leu Val Phe

130

135

140

Cys Ser Trp Met Ser Gly Leu Leu Leu Ile Ile Val Pro Ser Ser Ile

145

150

155

160

Val Phe Gln Gln Pro Phe Cys Gly Pro Asn Ile Ile Asn His Phe Phe

165

170

175

Cys Asp Asn Phe Pro Leu Met Glu Leu Ile Cys Ala Asp Thr Ser Leu

180

185

190

Val Glu Phe Leu Gly Phe Val Ile Ala Asn Phe Ser Leu Leu Gly Thr ,

195 200 205

Leu Ala Val Thr Ala Thr Cys Tyr Gly His Ile Leu Tyr Thr Ile Leu
210 215 220

His Ile Pro Ser Ala Lys Glu Arg Lys Lys Ala Phe Ser Thr Cys Ser
225 230 235 240

Ser His Ile Ile Val Val Ser Leu Phe Tyr Gly Ser Cys Ile Phe Met
 245 250 255

Tyr Val Arg Ser Gly Lys Asn Gly Gln Gly Glu Asp His Asn Lys Val
 260 265 270

Val Ala Leu Leu Asn Thr Val Val Thr Pro Thr Leu Asn Pro Phe Ile
 275 280 285

Tyr Thr Leu Arg Asn Lys Gln Val Lys Gln Val Phe Arg Glu His Val
 290 295 300

Ser Lys Phe Gln Lys Phe Ser Gln Thr
305 310

<210> 29

<211> 669

<212> DNA

<213> Mus musculus

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<308> AF102531

<309> 1999-02-08

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<222> (1)..(669)

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Cys Asn Leu Ala Thr Met Asp Ile Ile Cys Thr Ser Ser Val Leu Pro

1 5 10 15

aag gcg ctg gtt ggt cta ctg tct gag gaa aac acc acc tcc ttc aaa 96

Lys Ala Leu Val Gly Leu Leu Ser Glu Glu Asn Thr Thr Ser Phe Lys

20 25 30

ggg tgc atg act cag ctc ttc ttt ctt gtg tgg tct gga tcc tct gag 144

Gly Cys Met Thr Gln Leu Phe Phe Leu Val Trp Ser Gly Ser Ser Glu

35 40 45

ctg ctg ctg ctc aca gtc atg gcc tat gac cgc tat gtg gcc atc tgt 192

Leu Leu Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys

50 55 60

ttg ccc ctg cat tac agc tct agg atg agt cca cag ctc tgt ggg acc 240

Leu Pro Leu His Tyr Ser Ser Arg Met Ser Pro Gln Leu Cys Gly Thr

65 70 75 80

ttt gcc gtg ggt gta tgg tcc atc tgc gca cta aat gca tct atc aac 288

Phe Ala Val Gly Val Trp Ser Ile Cys Ala Leu Asn Ala Ser Ile Asn

85 90 95

act ggt ctg atg aca cgg ctg tca ttc tgt ggc ccc aag gtc atc acc 336

Thr Gly Leu Met Thr Arg Leu Ser Phe Cys Gly Pro Lys Val Ile Thr
 100 105 110

cac ttc ttc tgt gag att ccc cca ctc ctc ctg ctc tcc tgt agt cct 384
 His Phe Phe Cys Glu Ile Pro Pro Leu Leu Leu Leu Ser Cys Ser Pro
 115 120 125

aca tat ata aat agc gtt atg act ctt gtg gca gat gcc ttt tat gga 432
 Thr Tyr Ile Asn Ser Val Met Thr Leu Val Ala Asp Ala Phe Tyr Gly
 130 135 140

ggc atc aat ttt tta ctt acc ttg cta tcc tat ggc tgc atc att gcc 480
 Gly Ile Asn Phe Leu Leu Thr Leu Leu Ser Tyr Gly Cys Ile Ile Ala
 145 150 155 160

agc atc ctg cgc atg cgt tct gct gag ggc aag agg aag gcc ttt tct 528
 Ser Ile Leu Arg Met Arg Ser Ala Glu Gly Lys Arg Lys Ala Phe Ser
 165 170 175

acc tgc tca tcc cac ctc att gtg gtc tct gtg tac tac tca tct gtg 576
 Thr Cys Ser Ser His Leu Ile Val Val Ser Val Tyr Tyr Ser Ser Val
 180 185 190

ttc tgt gcc tat gtc agc cct gct tct agc tac agc cca gaa aga agc 624
 Phe Cys Ala Tyr Val Ser Pro Ala Ser Ser Tyr Ser Pro Glu Arg Ser
 195 200 205

aaa gtt tcc tca gtg ctg tac tca gtc ctc agc cca acc ctc aac 669
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 210 215 220

<210> 30

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<213> Mus musculus

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Lys Ala Leu Val Gly Leu Leu Ser Glu Glu Asn Thr Thr Ser Phe Lys
 20 25 30

Gly Cys Met Thr Gln Leu Phe Phe Leu Val Trp Ser Gly Ser Ser Glu
 35 40 45

Leu Leu Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys
 50 55 60

Leu Pro Leu His Tyr Ser Ser Arg Met Ser Pro Gln Leu Cys Gly Thr
 65 70 75 80

Phe Ala Val Gly Val Trp Ser Ile Cys Ala Leu Asn Ala Ser Ile Asn
 85 90 95

Thr Gly Leu Met Thr Arg Leu Ser Phe Cys Gly Pro Lys Val Ile Thr
 100 105 110

His Phe Phe Cys Glu Ile Pro Pro Leu Leu Leu Leu Ser Cys Ser Pro
 115 120 125

Thr Tyr Ile Asn Ser Val Met Thr Leu Val Ala Asp Ala Phe Tyr Gly

130

135

140

Gly Ile Asn Phe Leu Leu Thr Leu Leu Ser Tyr Gly Cys Ile Ile Ala

145

150

155

160

Ser Ile Leu Arg Met Arg Ser Ala Glu Gly Lys Arg Lys Ala Phe Ser

165

170

175

Thr Cys Ser Ser His Leu Ile Val Val Ser Val Tyr Tyr Ser Ser Val

180

185

190

Phe Cys Ala Tyr Val Ser Pro Ala Ser Ser Tyr Ser Pro Glu Arg Ser

195

200

205

Lys Val Ser Ser Val Leu Tyr Ser Val Leu Ser Pro Thr Leu Asn

210

215

220

<210> 31

<211> 1661

<212> DNA

<213> Mus musculus

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<308> AF121974

<309> 1999-04-25

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<221> misc_feature

<222> (3)..(3)

<223> n is a, c, g, or t

<220>

<221> CDS

<222> (303)..(1307)

<400> 31

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atggaaagta gctacttcta acatacaact cttcatttcc tccatagaaa tgctgtagtt 180

aatgtctaca cccagtcag cctgggtgagg ctggggcagg tcctagcagg gccttcagg 240

gactgaaccc cggcattctg cccctcccct ctccctggag cctccccaag ccctcaggcg 300

tc atg tca ggg tgg agc aat ggc acc tac aat gag tcc tac acc agc 347

Met Ser Gly Trp Ser Asn Gly Thr Tyr Asn Glu Ser Tyr Thr Ser

1

5

10

15

ttc ctc ctc atg ggc ttc cca ggg atg cag gaa gcc aga gcc ctc ctg 395

Phe Leu Leu Met Gly Phe Pro Gly Met Gln Glu Ala Arg Ala Leu Leu

20

25

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gtg ctg ccc ttc ctc agc ctc tac ctg gtg atc ctc ttc acc aat gcc 443

Val Leu Pro Phe Leu Ser Leu Tyr Leu Val Ile Leu Phe Thr Asn Ala

35

40

45

ctg gtc atc cac acg gtg gca tcc cag cgc agc ctg cac cag ccc atg 491

Leu Val Ile His Thr Val Ala Ser Gln Arg Ser Leu His Gln Pro Met

50

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tac ctg ctc att gcc ctg ctc ctg gct gtc aat atc tgc gct gcc acc 539

Tyr Leu Leu Ile Ala Leu Leu Leu Ala Val Asn Ile Cys Ala Ala Thr

65	70	75	
acc gtg gtg ccc ccc atg ctc ttc agc ttc tcc aca cgc ttc aac cgc 587			
Thr Val Val Pro Pro Met Leu Phe Ser Phe Ser Thr Arg Phe Asn Arg			
80	85	90	95
atc tcc ctc cct cga tgc ttg gga caa atg ttc tgc atc tac ttc ctt 635			
Ile Ser Leu Pro Arg Cys Leu Gly Gln Met Phe Cys Ile Tyr Phe Leu			
100	105	110	
att gtc ttt gac tgc aac atc ctc ctg gtc atg gct cta gat cgc tat 683			
Ile Val Phe Asp Cys Asn Ile Leu Leu Val Met Ala Leu Asp Arg Tyr			
115	120	125	
gtg gct atc tgc tac cct ctc cgc tac cca gaa ata gtg aca gga cag 731			
Val Ala Ile Cys Tyr Pro Leu Arg Tyr Pro Glu Ile Val Thr Gly Gln			
130	135	140	
tta ctg gct ggt ctg gtg gtg ctg gca gtc acc agg agc aca agc att 779			
Leu Leu Ala Gly Leu Val Val Leu Ala Val Thr Arg Ser Thr Ser Ile			
145	150	155	
gtt gct cca gtg gtg gtg ctg gcc tcg cgg gtt cgc ttc tgt cgc tca 827			
Val Ala Pro Val Val Val Leu Ala Ser Arg Val Arg Phe Cys Arg Ser			
160	165	170	175
gat gtg atc cgc cac ttt gcc tgt gag cac atg gcc ctg atg aag ctt 875			
Asp Val Ile Arg His Phe Ala Cys Glu His Met Ala Leu Met Lys Leu			
180	185	190	
tcc tgt ggg gac atc tcg ctg aat aag acg gtg gga ctc act gtt cgc 923			
Ser Cys Gly Asp Ile Ser Leu Asn Lys Thr Val Gly Leu Thr Val Arg			
195	200	205	
atc ttc aac cga gtc ctg gat atg ctc ctg tta ggt gcc tcc tac tcc 971			
Ile Phe Asn Arg Val Leu Asp Met Leu Leu Leu Gly Ala Ser Tyr Ser			

210	215	220	
cgc atc atc cat gct gcc ttc agg atc tca tca ggt gga gca cgg tcc 1019			
Arg Ile Ile His Ala Ala Phe Arg Ile Ser Ser Gly Gly Ala Arg Ser			
225	230	235	
aaa gcc ctg aac acc tgt ggc tcc cac ctg ctg gtc atc ttc acc gtc 1067			
Lys Ala Leu Asn Thr Cys Gly Ser His Leu Leu Val Ile Phe Thr Val			
240	245	250	255
tac tcc tcc acc atg tcc tca tcc att gtc tac cgt gtg gca cgc act 1115			
Tyr Ser Ser Thr Met Ser Ser Ser Ile Val Tyr Arg Val Ala Arg Thr			
260	265	270	
gcc tcc caa gat gtg cac aac ttg ctt agt gct ttc tat ctg ttg etc 1163			
Ala Ser Gln Asp Val His Asn Leu Leu Ser Ala Phe Tyr Leu Leu Leu			
275	280	285	
ccc tgt ctg gtc aac ccc atc atc tac ggg gcc aga acc aag gaa atc 1211			
Pro Cys Leu Val Asn Pro Ile Ile Tyr Gly Ala Arg Thr Lys Glu Ile			
290	295	300	
agg cag cac ctg gta gct ctg ttc caa agg act cag caa cag gtc ttc 1259			
Arg Gln His Leu Val Ala Leu Phe Gln Arg Thr Gln Gln Gln Val Phe			
305	310	315	
act gag aag ccc cag tcc ctg ccc tgg aat aga gag ctt cct gga tga 1307			
Thr Glu Lys Pro Gln Ser Leu Pro Ser Asn Arg Glu Leu Pro Gly			
320	325	330	
ttgtccagaa ttgtgggtc tcaaaatcac ttctactatt cagtgaagga ggggcattca 1367			
agtgggcatt cgtctctggt atattttgtc tcggctattt tagttcagca tcctatttat 1427			
gagaagggtc tattctatat ctccagctgt ctagaactcc ttaagtggcc caggatgacc 1487			

tggaacccaa acaattctcc ttcttagtt tgccaaatgc tagcattaga ggcatgagtc 1547
 acagtgcctg gcttatctgc actcactg gagagcctca tgtctgcttt ccaaaaagca 1607
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<210> 32

<211> 334

<212> PRT

<213> Mus musculus

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Leu Leu Met Gly Phe Pro Gly Met Gln Glu Ala Arg Ala Leu Leu Val
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Leu Pro Phe Leu Ser Leu Tyr Leu Val Ile Leu Phe Thr Asn Ala Leu
 35 40 45

Val Ile His Thr Val Ala Ser Gln Arg Ser Leu His Gln Pro Met Tyr
 50 55 60

Leu Leu Ile Ala Leu Leu Leu Ala Val Asn Ile Cys Ala Ala Thr Thr
 65 70 75 80

Val Val Pro Pro Met Leu Phe Ser Phe Ser Thr Arg Phe Asn Arg Ile
 85 90 95

Ser Leu Pro Arg Cys Leu Gly Gln Met Phe Cys Ile Tyr Phe Leu Ile
100 105 110

Val Phe Asp Cys Asn Ile Leu Leu Val Met Ala Leu Asp Arg Tyr Val
115 120 125

Ala Ile Cys Tyr Pro Leu Arg Tyr Pro Glu Ile Val Thr Gly Gln Leu
130 135 140

Leu Ala Gly Leu Val Val Leu Ala Val Thr Arg Ser Thr Ser Ile Val
145 150 155 160

Ala Pro Val Val Val Leu Ala Ser Arg Val Arg Phe Cys Arg Ser Asp
165 170 175

Val Ile Arg His Phe Ala Cys Glu His Met Ala Leu Met Lys Leu Ser
180 185 190

Cys Gly Asp Ile Ser Leu Asn Lys Thr Val Gly Leu Thr Val Arg Ile
195 200 205

Phe Asn Arg Val Leu Asp Met Leu Leu Leu Gly Ala Ser Tyr Ser Arg
210 215 220

Ile Ile His Ala Ala Phe Arg Ile Ser Ser Gly Gly Ala Arg Ser Lys
225 230 235 240

Ala Leu Asn Thr Cys Gly Ser His Leu Leu Val Ile Phe Thr Val Tyr

245

250

255

Ser Ser Thr Met Ser Ser Ser Ile Val Tyr Arg Val Ala Arg Thr Ala

260

265

270

Ser Gln Asp Val His Asn Leu Leu Ser Ala Phe Tyr Leu Leu Leu Pro

275

280

285

Cys Leu Val Asn Pro Ile Ile Tyr Gly Ala Arg Thr Lys Glu Ile Arg

290

295

300

Gln His Leu Val Ala Leu Phe Gln Arg Thr Gln Gln Gln Val Phe Thr

305

310

315

320

Glu Lys Pro Gln Ser Leu Pro Ser Asn Arg Glu Leu Pro Gly

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330

<210> 33

<211> 1116

<212> DNA

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Met Asn Ser

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aaa gca agc atg ctt gga act aac ttc act atc atc cat cca act gtg 106

Lys Ala Ser Met Leu Gly Thr Asn Phe Thr Ile Ile His Pro Thr Val

5

10

15

ttc atc ctg ctt gga atc cca ggg ctg gag cag tac cac acc tgg ctt 154

Phe Ile Leu Leu Gly Ile Pro Gly Leu Glu Gln Tyr His Thr Trp Leu

20

25

30

35

tct att cct ttt tgt ctt atg tac att gct gca gtc ttg ggg aac gga 202

Ser Ile Pro Phe Cys Leu Met Tyr Ile Ala Ala Val Leu Gly Asn Gly

40

45

50

gcc ctc atc ctt gtt gtc ctg agt gaa cgc acc ctc cat gag ccc atg 250

Ala Leu Ile Leu Val Val Leu Ser Glu Arg Thr Leu His Glu Pro Met

55

60

65

tat gtc ttt ctg tcc atg ctg gct ggc act gat att ctc ctg tca acc 298

Tyr Val Phe Leu Ser Met Leu Ala Gly Thr Asp Ile Leu Leu Ser Thr

70

75

80

acc act gtg cct aag acc ttg gct atc ttt tgg ttc cat gct ggg gag 346

Thr Thr Val Pro Lys Thr Leu Ala Ile Phe Trp Phe His Ala Gly Glu
 85 90 95

atc ccc ttt gat gcc tgc att gct cag atg ttt ttc atc cac gtt gct 394
 Ile Pro Phe Asp Ala Cys Ile Ala Gln Met Phe Phe Ile His Val Ala
 100 105 110 115

ttt gtg gct gag tcg gga atc ctt ctg gcc atg gca ttt gac cga tat 442
 Phe Val Ala Glu Ser Gly Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr
 120 125 130

gtg gct att tgt act cct ctg aga tac tca gcc gtc tta aca cct atg 490
 Val Ala Ile Cys Thr Pro Leu Arg Tyr Ser Ala Val Leu Thr Pro Met
 135 140 145

gca att gga aaa atg acc ctg gcc atc tgg gga cgg agc att ggg aca 538
 Ala Ile Gly Lys Met Thr Leu Ala Ile Trp Gly Arg Ser Ile Gly Thr
 150 155 160

att ttc cct atc ata ttt ctg ctg aag agg ctg tca tac tgc agg acc 586
 Ile Phe Pro Ile Ile Phe Leu Leu Lys Arg Leu Ser Tyr Cys Arg Thr
 165 170 175

aat gtc atc cca cac tca tat tgt gag cat att ggt gta gcc aga ttg 634
 Asn Val Ile Pro His Ser Tyr Cys Glu His Ile Gly Val Ala Arg Leu
 180 185 190 195

gct tgt gct gac atc act gtc aat atc tgg tat ggc ttc tcg gtg cca 682
 Ala Cys Ala Asp Ile Thr Val Asn Ile Trp Tyr Gly Phe Ser Val Pro
 200 205 210

atg gct tca gtt ttg gta gat gtt gca ctc att ggt att tct tat acg 730
 Met Ala Ser Val Leu Val Asp Val Ala Leu Ile Gly Ile Ser Tyr Thr
 215 220 225

ttg atc ctc cag gct gtg ttt aga ctt cct tcc cag gat gct agg cac 778

Leu Ile Leu Gln Ala Val Phe Arg Leu Pro Ser Gln Asp Ala Arg His
 230 235 240

aag gcc ctc aat acc tgt ggt tct cac att ggg gtc att ctc ctc ttt 826
 Lys Ala Leu Asn Thr Cys Gly Ser His Ile Gly Val Ile Leu Leu Phe
 245 250 255

ttc ata cca tca ttt ttt act ttc ctt act cat cgc ttt ggc aag aac 874
 Phe Ile Pro Ser Phe Phe Thr Phe Leu Thr His Arg Phe Gly Lys Asn
 260 265 270 275

atc ccc cac cat gtg cac att ctt ctg gca aat ctc tat gtg ttg gtt 922
 Ile Pro His His Val His Ile Leu Leu Ala Asn Leu Tyr Val Leu Val
 280 285 290

ccc ccc atg ctt aac cct atc atc tat ggt gct aag acc aag caa att 970
 Pro Pro Met Leu Asn Pro Ile Ile Tyr Gly Ala Lys Thr Lys Gln Ile
 295 300 305

agg gac agc atg act cgc atg ttg tct gtt gtg tgg aag tct tga 1015
 Arg Asp Ser Met Thr Arg Met Leu Ser Val Val Trp Lys Ser
 310 315 320

gagcagtcac agttcacaaa gctgtcttag ttctcttac aaacaggaga gagagagaga 1075

gagagagaga gagagagaga gagagagaga gagagagaga g 1116

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<212> PRT

<213> Mus musculus

<400> 34

Met Asn Ser Lys Ala Ser Met Leu Gly Thr Asn Phe Thr Ile Ile His

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Pro Thr Val Phe Ile Leu Leu Gly Ile Pro Gly Leu Glu Gln Tyr His
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Thr Trp Leu Ser Ile Pro Phe Cys Leu Met Tyr Ile Ala Ala Val Leu
35 40 45

Gly Asn Gly Ala Leu Ile Leu Val Val Leu Ser Glu Arg Thr Leu His
50 55 60

Glu Pro Met Tyr Val Phe Leu Ser Met Leu Ala Gly Thr Asp Ile Leu
65 70 75 80

Leu Ser Thr Thr Thr Val Pro Lys Thr Leu Ala Ile Phe Trp Phe His
85 90 95

Ala Gly Glu Ile Pro Phe Asp Ala Cys Ile Ala Gln Met Phe Phe Ile
100 105 110

His Val Ala Phe Val Ala Glu Ser Gly Ile Leu Leu Ala Met Ala Phe
115 120 125

Asp Arg Tyr Val Ala Ile Cys Thr Pro Leu Arg Tyr Ser Ala Val Leu
130 135 140

Thr Pro Met Ala Ile Gly Lys Met Thr Leu Ala Ile Trp Gly Arg Ser

145 150 155 160

Ile Gly Thr Ile Phe Pro Ile Ile Phe Leu Leu Lys Arg Leu Ser Tyr
 165 170 175

Cys Arg Thr Asn Val Ile Pro His Ser Tyr Cys Glu His Ile Gly Val
 180 185 190

Ala Arg Leu Ala Cys Ala Asp Ile Thr Val Asn Ile Trp Tyr Gly Phe
 195 200 205

Ser Val Pro Met Ala Ser Val Leu Val Asp Val Ala Leu Ile Gly Ile
 210 215 220

Ser Tyr Thr Leu Ile Leu Gln Ala Val Phe Arg Leu Pro Ser Gln Asp
225 230 235 240

Ala Arg His Lys Ala Leu Asn Thr Cys Gly Ser His Ile Gly Val Ile
 245 250 255

Leu Leu Phe Phe Ile Pro Ser Phe Phe Thr Phe Leu Thr His Arg Phe
 260 265 270

Gly Lys Asn Ile Pro His His Val His Ile Leu Leu Ala Asn Leu Tyr
 275 280 285

Val Leu Val Pro Pro Met Leu Asn Pro Ile Ile Tyr Gly Ala Lys Thr

290 295 300

Lys Gln Ile Arg Asp Ser Met Thr Arg Met Leu Ser Val Val Trp Lys
305 310 315 320

Ser

<210> 35
<211> 1267
<212> DNA
<213> Mus musculus

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<308> AF121977
<309> 1999-04-25
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ctttcatgag gtaccacaca acagcatggt cctgtacaca tgtaactacc t atg ttt 177

Met Phe

1

tgt cat tta tat aat gag aac aat atg caa gtg gca atc ctg gat tcc 225

Cys His Leu Tyr Asn Glu Asn Asn Met Gln Val Ala Ile Leu Asp Ser

5

10

15

att cta ata cct tct tat ttt tct ttc ctg aca gag atg gag cct gga 273

Ile Leu Ile Pro Ser Tyr Phe Ser Phe Leu Thr Glu Met Glu Pro Gly

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25

30

aac tac aca gtt gta aca gaa ttc att ctt tta ggg tta aca gat gat 321

Asn Tyr Thr Val Val Thr Glu Phe Ile Leu Leu Gly Leu Thr Asp Asp

35

40

45

50

att aca gtc agt gtc att tta ttt gtt atg ttt cta atc gtc tat tct 369

Ile Thr Val Ser Val Ile Leu Phe Val Met Phe Leu Ile Val Tyr Ser

55

60

65

gtt act tta atg ggt aac ttg aac ata att gtg cta atc aga acc agc 417

Val Thr Leu Met Gly Asn Leu Asn Ile Ile Val Leu Ile Arg Thr Ser

70

75

80

cct cag ctt cac acc ccc atg tac ctt ttc ctt agc cat ttg gcc ttt 465

Pro Gln Leu His Thr Pro Met Tyr Leu Phe Leu Ser His Leu Ala Phe

85

90

95

cta gac att ggg tac tcc agc tca gtt aca ccc atc atg ctg agg ggc 513

Leu Asp Ile Gly Tyr Ser Ser Ser Val Thr Pro Ile Met Leu Arg Gly

100

105

110

ttt ctc aga aag gga aca ttt atc cct gtg gct ggc tgt gtg gct caa 561

Phe Leu Arg Lys Gly Thr Phe Ile Pro Val Ala Gly Cys Val Ala Gln

115

120

125

130

ctc tgt att gtg gtg gca ttt ggg aca tct gaa tct ttc ttg cta gct 609
 Leu Cys Ile Val Val Ala Phe Gly Thr Ser Glu Ser Phe Leu Leu Ala
 135 140 145

tcc atg gcc tat gac cgc tat gtg gcc atc tgc tca cct ttg ctc tac 657
 Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser Pro Leu Leu Tyr
 150 155 160

tca aca cag atg tcc tcc aca gtc tgc atc ctc cta gtt gga act tcc 705
 Ser Thr Gln Met Ser Ser Thr Val Cys Ile Leu Leu Val Gly Thr Ser
 165 170 175

tac cta ggt gga tgg gtg aat gct tgg ata ttt act ggt tgc tcc tta 753
 Tyr Leu Gly Gly Trp Val Asn Ala Trp Ile Phe Thr Gly Cys Ser Leu
 180 185 190

aat ctg tca ttt tgt ggg cca aat aaa att aat cac ttt ttc tgt gac 801
 Asn Leu Ser Phe Cys Gly Pro Asn Lys Ile Asn His Phe Phe Cys Asp
 195 200 205 210

tat tca cca cta ttg aag ctt tct tgt tct cat gac ttt tct ttt gaa 849
 Tyr Ser Pro Leu Leu Lys Leu Ser Cys Ser His Asp Phe Ser Phe Glu
 215 220 225

gtc att cca gca atc tct tcg gga tcc atc att gtg gtc act gtg ttt 897
 Val Ile Pro Ala Ile Ser Ser Gly Ser Ile Ile Val Val Thr Val Phe
 230 235 240

atc att gct ctg tct tat gtc tac atc ctt gtg tca atc ctg aag atg 945
 Ile Ile Ala Leu Ser Tyr Val Tyr Ile Leu Val Ser Ile Leu Lys Met
 245 250 255

cgc tct act gaa ggt cgc cag aag gcc ttc tcc acc tgc act tcc cac 993
 Arg Ser Thr Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys Thr Ser His
 260 265 270

ctc act gca gtc act ctg ttc ttt ggg acc atc aca ttc att tat gtg 1041
 Leu Thr Ala Val Thr Leu Phe Phe Gly Thr Ile Thr Phe Ile Tyr Val
 275 280 285 290

atg ccc cag tcc agc tac tcc aca gac cag aac aaa gtg gtg tct gtg 1089
 Met Pro Gln Ser Ser Tyr Ser Thr Asp Gln Asn Lys Val Val Ser Val
 295 300 305

ttt tac aca gtg gtg atc ccc atg ttg aat ccc ctc atc tac agt ttc 1137
 Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Phe
 310 315 320

aga aac aaa gag gtt aaa gaa gcc atg aaa aaa ctg att gct aaa aca 1185
 Arg Asn Lys Glu Val Lys Glu Ala Met Lys Lys Leu Ile Ala Lys Thr
 325 330 335

cat tgg tgg tcc tga aatatgtgaa ttacaaaca gtaaattctg ctcttacagg 1240
 His Trp Trp Ser
 340

taaatggcag tatactaagt aaattac 1267

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<211> 342

<212> PRT

<213> Mus musculus

<400> 36

Met Phe Cys His Leu Tyr Asn Glu Asn Asn Met Gln Val Ala Ile Leu
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Asp Ser Ile Leu Ile Pro Ser Tyr Phe Ser Phe Leu Thr Glu Met Glu
 20 25 30

Pro Gly Asn Tyr Thr Val Val Thr Glu Phe Ile Leu Leu Gly Leu Thr

35

40

45

Asp Asp Ile Thr Val Ser Val Ile Leu Phe Val Met Phe Leu Ile Val

50

55

60

Tyr Ser Val Thr Leu Met Gly Asn Leu Asn Ile Ile Val Leu Ile Arg

65

70

75

80

Thr Ser Pro Gln Leu His Thr Pro Met Tyr Leu Phe Leu Ser His Leu

85

90

95

Ala Phe Leu Asp Ile Gly Tyr Ser Ser Ser Val Thr Pro Ile Met Leu

100

105

110

Arg Gly Phe Leu Arg Lys Gly Thr Phe Ile Pro Val Ala Gly Cys Val

115

120

125

Ala Gln Leu Cys Ile Val Val Ala Phe Gly Thr Ser Glu Ser Phe Leu

130

135

140

Leu Ala Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Ser Pro Leu

145

150

155

160

Leu Tyr Ser Thr Gln Met Ser Ser Thr Val Cys Ile Leu Leu Val Gly

165

170

175

Thr Ser Tyr Leu Gly Gly Trp Val Asn Ala Trp Ile Phe Thr Gly Cys
180 185 190

Ser Leu Asn Leu Ser Phe Cys Gly Pro Asn Lys Ile Asn His Phe Phe
195 200 205

Cys Asp Tyr Ser Pro Leu Leu Lys Leu Ser Cys Ser His Asp Phe Ser
210 215 220

Phe Glu Val Ile Pro Ala Ile Ser Ser Gly Ser Ile Ile Val Val Thr
225 230 235 240

Val Phe Ile Ile Ala Leu Ser Tyr Val Tyr Ile Leu Val Ser Ile Leu
245 250 255

Lys Met Arg Ser Thr Glu Gly Arg Gln Lys Ala Phe Ser Thr Cys Thr
260 265 270

Ser His Leu Thr Ala Val Thr Leu Phe Phe Gly Thr Ile Thr Phe Ile
275 280 285

Tyr Val Met Pro Gln Ser Ser Tyr Ser Thr Asp Gln Asn Lys Val Val
290 295 300

Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr
305 310 315 320

Ser Phe Arg Asn Lys Glu Val Lys Glu Ala Met Lys Lys Leu Ile Ala

325

330

335

Lys Thr His Trp Trp Ser

340

<210> 37

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<212> DNA

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<223> n is a, c, g, or t

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 Met Ser Pro Gly Asn Ser Ser Trp Ile His
 1 5 10
 cct tct tcc ttc ctg ctc ttg gga atc cca gga ctg gaa gag ttg cag 161
 Pro Ser Ser Phe Leu Leu Leu Gly Ile Pro Gly Leu Glu Glu Leu Gln
 15 20 25
 ttc tgg ctt ggt ttg cca ttt gga aca gtc tat ctt att gct gtc cta 209
 Phe Trp Leu Gly Leu Pro Phe Gly Thr Val Tyr Leu Ile Ala Val Leu
 30 35 40
 ggg aat gtc atc att ctc ttt gta atc tat cta gag cac agc ctt cac 257
 Gly Asn Val Ile Ile Leu Phe Val Ile Tyr Leu Glu His Ser Leu His
 45 50 55
 caa cct atg ttc tac tta ctg gcc ata ctg gct gtt act gac ttg ggt 305
 Gln Pro Met Phe Tyr Leu Leu Ala Ile Leu Ala Val Thr Asp Leu Gly
 60 65 70
 ctg tct aca gca act gtt ccc aga gca ctc ggt ata ttc tgg ttt ggc 353
 Leu Ser Thr Ala Thr Val Pro Arg Ala Leu Gly Ile Phe Trp Phe Gly
 75 80 85 90
 ttc cat aag att gcc ttt agg gac tgt gta gct caa atg ttt ttc ata 401
 Phe His Lys Ile Ala Phe Arg Asp Cys Val Ala Gln Met Phe Phe Ile
 95 100 105
 cat ctg ttt aca ggc atc gaa aca ttc atg ctt gta gct atg gcc ttt 449
 His Leu Phe Thr Gly Ile Glu Thr Phe Met Leu Val Ala Met Ala Phe
 110 115 120
 gat cgc tac att gcc atc tgt aac cct ctc cga tat aac act atc ctc 497
 Asp Arg Tyr Ile Ala Ile Cys Asn Pro Leu Arg Tyr Asn Thr Ile Leu

125

130

135

acc aac aga aca atc tgc att att gtt gga gtt gga cta ttt aaa aat 545

Thr Asn Arg Thr Ile Cys Ile Ile Val Gly Val Gly Leu Phe Lys Asn

140

145

150

ttc att ttg gtt ttt cca ctt ata ttt ctc att cta agg ctt tca ttc 593

Phe Ile Leu Val Phe Pro Leu Ile Phe Leu Ile Leu Arg Leu Ser Phe

155

160

165

170

tgt gga cac aat atc ata cca cac aca tac tgt gag cac atg ggc att 641

Cys Gly His Asn Ile Ile Pro His Thr Tyr Cys Glu His Met Gly Ile

175

180

185

gct cga ctg gca tgc gtc agc atc aag gtt aat gta tta ttt gga tta 689

Ala Arg Leu Ala Cys Val Ser Ile Lys Val Asn Val Leu Phe Gly Leu

190

195

200

ata ctc ata tct atg ata ctt ctg gat gtt gtt ttg agt gct ctg tcc 737

Ile Leu Ile Ser Met Ile Leu Leu Asp Val Val Leu Ser Ala Leu Ser

205

210

215

tat gcg aaa att ctt cat gct gta ttt aaa ctc cca tcc tgg gaa gcc 785

Tyr Ala Lys Ile Leu His Ala Val Phe Lys Leu Pro Ser Trp Glu Ala

220

225

230

aga ctc aaa gct ctt aat acc tgt ggt tcc cat gtg tgt gtg atc ttg 833

Arg Leu Lys Ala Leu Asn Thr Cys Gly Ser His Val Cys Val Ile Leu

235

240

245

250

gct ttc ttc act cca gcc ttt ttc tcc ttc ttg act cat cga ttt gga 881

Ala Phe Phe Thr Pro Ala Phe Phe Ser Phe Leu Thr His Arg Phe Gly

255

260

265

cac aat att cca cga tat atc cac atc ctc ctt gct aac tta tat gtg 929

His Asn Ile Pro Arg Tyr Ile His Ile Leu Leu Ala Asn Leu Tyr Val

270

275

280

atc att ccc cng gct ctt aac cct att att tat ggg gtg aga acc aaa 977

Ile Ile Pro Xaa Ala Leu Asn Pro Ile Ile Tyr Gly Val Arg Thr Lys

285

290

295

cag ata caa gat cgt gcg gtg aca ata ttg tgc aac gag gtt gga cag 1025

Gln Ile Gln Asp Arg Ala Val Thr Ile Leu Cys Asn Glu Val Gly Gln

300

305

310

ctg gca gac gac tag tatgtcttct aatagtctct ttcttccta agaggactac 1080

Leu Ala Asp Asp

315

tgntttgtaa gcttgcatat gtggaacaca ttacacaatg

1120

<210> 38

<211> 318

<212> PRT

<213> Mus musculus

<220>

<221> misc_feature

<222> (286)..(286)

<223> The 'Xaa' at location 286 stands for Gln, Arg, Pro, or Leu.

<400> 38

Met Ser Pro Gly Asn Ser Ser Trp Ile His Pro Ser Ser Phe Leu Leu

1

5

10

15

Leu Gly Ile Pro Gly Leu Glu Glu Leu Gln Phe Trp Leu Gly Leu Pro

20

25

30

Phe Gly Thr Val Tyr Leu Ile Ala Val Leu Gly Asn Val Ile Ile Leu
35 40 45

Phe Val Ile Tyr Leu Glu His Ser Leu His Gln Pro Met Phe Tyr Leu
50 55 60

Leu Ala Ile Leu Ala Val Thr Asp Leu Gly Leu Ser Thr Ala Thr Val
65 70 75 80

Pro Arg Ala Leu Gly Ile Phe Trp Phe Gly Phe His Lys Ile Ala Phe
85 90 95

Arg Asp Cys Val Ala Gln Met Phe Phe Ile His Leu Phe Thr Gly Ile
100 105 110

Glu Thr Phe Met Leu Val Ala Met Ala Phe Asp Arg Tyr Ile Ala Ile
115 120 125

Cys Asn Pro Leu Arg Tyr Asn Thr Ile Leu Thr Asn Arg Thr Ile Cys
130 135 140

Ile Ile Val Gly Val Gly Leu Phe Lys Asn Phe Ile Leu Val Phe Pro
145 150 155 160

Leu Ile Phe Leu Ile Leu Arg Leu Ser Phe Cys Gly His Asn Ile Ile
165 170 175

Pro His Thr Tyr Cys Glu His Met Gly Ile Ala Arg Leu Ala Cys Val
180 185 190

Ser Ile Lys Val Asn Val Leu Phe Gly Leu Ile Leu Ile Ser Met Ile
195 200 205

Leu Leu Asp Val Val Leu Ser Ala Leu Ser Tyr Ala Lys Ile Leu His
210 215 220

Ala Val Phe Lys Leu Pro Ser Trp Glu Ala Arg Leu Lys Ala Leu Asn
225 230 235 240

Thr Cys Gly Ser His Val Cys Val Ile Leu Ala Phe Phe Thr Pro Ala
245 250 255

Phe Phe Ser Phe Leu Thr His Arg Phe Gly His Asn Ile Pro Arg Tyr
260 265 270

Ile His Ile Leu Leu Ala Asn Leu Tyr Val Ile Ile Pro Xaa Ala Leu
275 280 285

Asn Pro Ile Ile Tyr Gly Val Arg Thr Lys Gln Ile Gln Asp Arg Ala
290 295 300

Val Thr Ile Leu Cys Asn Glu Val Gly Gln Leu Ala Asp Asp
305 310 315

<210> 39
 <211> 2333
 <212> DNA
 <213> Mus musculus

<300>
 <308> M36778
 <309> 1995-08-22
 <313> (1)..(2333)

<220>
 <221> CDS
 <222> (24)..(1088)

<400> 39
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Met Gly Cys Thr Leu Ser Ala Glu Glu Arg
 1 5 10

gcc gcc ctc gag cgg agc aag gcg att gag aaa aac ctc aaa gaa gat 101

Ala Ala Leu Glu Arg Ser Lys Ala Ile Glu Lys Asn Leu Lys Glu Asp
 15 20 25

ggc atc agc gcc gcc aaa gac gtg aaa tta ctc ctg ctg ggg gct gga 149

Gly Ile Ser Ala Ala Lys Asp Val Lys Leu Leu Leu Gly Ala Gly
 30 35 40

gaa tca gga aaa agc acc att gtg aag cag atg aag atc atc cat gaa 197

Glu Ser Gly Lys Ser Thr Ile Val Lys Gln Met Lys Ile Ile His Glu
 45 50 55

gat ggc ttc tct ggg gaa gac gtg aag cag tac aag cct gtg gtc tac 245

Asp Gly Phe Ser Gly Glu Asp Val Lys Gln Tyr Lys Pro Val Val Tyr
 60 65 70

agc aac acc atc cag tct ctg gcg gcc att gtc cgg gcc atg gac act 293
 Ser Asn Thr Ile Gln Ser Leu Ala Ala Ile Val Arg Ala Met Asp Thr
 75 80 85 90

ttg ggc gtg gag tat ggt gac aag gag agg aag acg gac tcc aag atg 341
 Leu Gly Val Glu Tyr Gly Asp Lys Glu Arg Lys Thr Asp Ser Lys Met
 95 100 105

gtg tgt gac gtg gtg agt cgt atg gaa gac act gaa ccg ttc tct gca 389
 Val Cys Asp Val Val Ser Arg Met Glu Asp Thr Glu Pro Phe Ser Ala
 110 115 120

gaa ctt ctt tct gcc atg atg cga ctc tgg ggc gac tcg ggg atc cag 437
 Glu Leu Leu Ser Ala Met Met Arg Leu Trp Gly Asp Ser Gly Ile Gln
 125 130 135

gag tgc ttc aac cga tct cgg gag tat cag ctc aat gac tct gcc aaa 485
 Glu Cys Phe Asn Arg Ser Arg Glu Tyr Gln Leu Asn Asp Ser Ala Lys
 140 145 150

tac tac ctg gac agc ctg gat cgg att gga gcc ggt gac tac cag ccc 533
 Tyr Tyr Leu Asp Ser Leu Asp Arg Ile Gly Ala Gly Asp Tyr Gln Pro
 155 160 165 170

act gag cag gac atc ctc cga acc aga gtc aaa aca act ggc atc gta 581
 Thr Glu Gln Asp Ile Leu Arg Thr Arg Val Lys Thr Thr Gly Ile Val
 175 180 185

gaa acc cac ttc acc ttc aag aac ctc cac ttc agg ctg ttt gac gtc 629
 Glu Thr His Phe Thr Phe Lys Asn Leu His Phe Arg Leu Phe Asp Val
 190 195 200

ggg ggc cag cga tct gaa cgc aag aag tgg atc cac tgc ttt gag gat 677
 Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Asp
 205 210 215

gtc acg gcc atc atc ttc tgt gtc gca ctc agc ggc tat gac cag gtg 725
 Val Thr Ala Ile Ile Phe Cys Val Ala Leu Ser Gly Tyr Asp Gln Val
 220 225 230

ctc cac gag gac gaa acc acg aac cgc atg cac gaa tcc ctg aag ctc 773
 Leu His Glu Asp Glu Thr Thr Asn Arg Met His Glu Ser Leu Lys Leu
 235 240 245 250

ttc gac agc atc tgc aac aac aag tgg ttc aca gac aca tct att atc 821
 Phe Asp Ser Ile Cys Asn Asn Lys Trp Phe Thr Asp Thr Ser Ile Ile
 255 260 265

ctg ttt ctc aac aag aag gac ata ttt gag gag aag atc aag aag tcc 869
 Leu Phe Leu Asn Lys Lys Asp Ile Phe Glu Glu Lys Ile Lys Lys Ser
 270 275 280

cca ctc acc atc tgc ttt cct gaa tac aca ggc ccc agt gcc ttc aca 917
 Pro Leu Thr Ile Cys Phe Pro Glu Tyr Thr Gly Pro Ser Ala Phe Thr
 285 290 295

gaa gct gtg gct cac atc caa ggg cag tat gag agt aag aat aag tca 965
 Glu Ala Val Ala His Ile Gln Gly Gln Tyr Glu Ser Lys Asn Lys Ser
 300 305 310

gct cac aag gaa gtc tac agc cat gtc acc tgt gcc acg gac acc aac 1013
 Ala His Lys Glu Val Tyr Ser His Val Thr Cys Ala Thr Asp Thr Asn
 315 320 325 330

aac atc caa ttc gtc ttt gat gcc gtg aca gat gtc atc atc gcc aaa 1061
 Asn Ile Gln Phe Val Phe Asp Ala Val Thr Asp Val Ile Ile Ala Lys
 335 340 345

aac cta cgg ggc tgt gga ctc tac tga gccctggcct cctaccacgc 1108
 Asn Leu Arg Gly Cys Gly Leu Tyr
 350

ctgccactca ctctcccct ggaccagag ctctgtcact gtcagatgc cctgttaact 1168
 gaagaaaacc tggaggctag ccttgggggc aggaggaggc atcctttgag catccccacc 1228
 ccacccaact tcagcctcgt gacacgtggg aacaggggtg ggcagaggtg tggaacagca 1288
 caaggccaga gaccacggca tgccacttgg gtgctgctca ctggtcagct gtgtgtctta 1348
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 agggctctgt tggtagaggg tggttcgtc gacaaaagcc aacatggaat caggccactt 1588
 ttggggcgca aagactcaga ctttggggac gggttcctc ctcttcact ttgatcttg 1648
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 catgggggtg ggaatattcc ttaagactgg ctgactgcaa aggtcaccga tggagaaaca 1768
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 gttgatgaca agccctgaga atgcatctg ctggctccac tcacacgggc tcaactgtcc 1888
 tgggtgatag tgacttgcca ggccacaggc tgcaggtcac agacagagca ggcaagcagc 1948
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 cagtgcctg ctttactcca gccttgggtc ggaagtcgaa agcccttggg gtattctggg 2068
 tctcgagca aataatgagc cagcacctg aagggtgggc tccaactcag acatgcagcc 2128
 agccccctag gtgggtaaac gccctaggga cctagggaga gcctttgctg cagagattcc 2188

taagcaaaac ggcggtgg agcttggca accctagccc cagctaactt tggacagtca 2248

gcatatgtcc ctgcatccc tagacatctc cagtcagctg gtatcacagc cagtggttca 2308

gacaggtttg aatgctcatg tggca 2333

<210> 40

<211> 354

<212> PRT

<213> Mus musculus

<400> 40

Met Gly Cys Thr Leu Ser Ala Glu Glu Arg Ala Ala Leu Glu Arg Ser

1 5 10 15

Lys Ala Ile Glu Lys Asn Leu Lys Glu Asp Gly Ile Ser Ala Ala Lys

20 25 30

Asp Val Lys Leu Leu Leu Leu Gly Ala Gly Glu Ser Gly Lys Ser Thr

35 40 45

Ile Val Lys Gln Met Lys Ile Ile His Glu Asp Gly Phe Ser Gly Glu

50 55 60

Asp Val Lys Gln Tyr Lys Pro Val Val Tyr Ser Asn Thr Ile Gln Ser

65 70 75 80

Leu Ala Ala Ile Val Arg Ala Met Asp Thr Leu Gly Val Glu Tyr Gly

85 90 95

Asp Lys Glu Arg Lys Thr Asp Ser Lys Met Val Cys Asp Val Val Ser
100 105 110

Arg Met Glu Asp Thr Glu Pro Phe Ser Ala Glu Leu Leu Ser Ala Met
115 120 125

Met Arg Leu Trp Gly Asp Ser Gly Ile Gln Glu Cys Phe Asn Arg Ser
130 135 140

Arg Glu Tyr Gln Leu Asn Asp Ser Ala Lys Tyr Tyr Leu Asp Ser Leu
145 150 155 160

Asp Arg Ile Gly Ala Gly Asp Tyr Gln Pro Thr Glu Gln Asp Ile Leu
165 170 175

Arg Thr Arg Val Lys Thr Thr Gly Ile Val Glu Thr His Phe Thr Phe
180 185 190

Lys Asn Leu His Phe Arg Leu Phe Asp Val Gly Gly Gln Arg Ser Glu
195 200 205

Arg Lys Lys Trp Ile His Cys Phe Glu Asp Val Thr Ala Ile Ile Phe
210 215 220

Cys Val Ala Leu Ser Gly Tyr Asp Gln Val Leu His Glu Asp Glu Thr
225 230 235 240

Thr Asn Arg Met His Glu Ser Leu Lys Leu Phe Asp Ser Ile Cys Asn

245

250

255

Asn Lys Trp Phe Thr Asp Thr Ser Ile Ile Leu Phe Leu Asn Lys Lys

260

265

270

Asp Ile Phe Glu Glu Lys Ile Lys Lys Ser Pro Leu Thr Ile Cys Phe

275

280

285

Pro Glu Tyr Thr Gly Pro Ser Ala Phe Thr Glu Ala Val Ala His Ile

290

295

300

Gln Gly Gln Tyr Glu Ser Lys Asn Lys Ser Ala His Lys Glu Val Tyr

305

310

315

320

Ser His Val Thr Cys Ala Thr Asp Thr Asn Asn Ile Gln Phe Val Phe

325

330

335

Asp Ala Val Thr Asp Val Ile Ile Ala Lys Asn Leu Arg Gly Cys Gly

340

345

350

Leu Tyr

<210> 41

<211> 1135

<212> DNA

<213> Mus musculus

<300>

<308> M87286

<309> 1993-04-27

<313> (1)..(1135)

<220>

<221> CDS

<222> (41)..(1063)

<400> 41

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Met Ser Glu Leu Glu

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cag ctg agg cag gag gct gaa cag ctt cgg aat cag atc cag gat gct 103

Gln Leu Arg Gln Glu Ala Glu Gln Leu Arg Asn Gln Ile Gln Asp Ala

10

15

20

cgg aag gcc tgc aac gat gcc acg ctg gtt cag atc acg tct aat atg 151

Arg Lys Ala Cys Asn Asp Ala Thr Leu Val Gln Ile Thr Ser Asn Met

25

30

35

gac tcc gtg ggc cga ata caa atg cga aca agg cgc acg ctg cgt ggc 199

Asp Ser Val Gly Arg Ile Gln Met Arg Thr Arg Arg Thr Leu Arg Gly

40

45

50

cac ctc gct aag atc tac gcc atg cac tgg gga tat gat tcc agg cta 247

His Leu Ala Lys Ile Tyr Ala Met His Trp Gly Tyr Asp Ser Arg Leu

55

60

65

cta gtc agt gct tcg caa gat gga aaa tta att att tgg gat agc tat 295

Leu Val Ser Ala Ser Gln Asp Gly Lys Leu Ile Ile Trp Asp Ser Tyr

70	75	80	85
acg aca aat aag atg cac gcc atc cct ctg agg tcc tcc tgg gtg atg 343			
Thr Thr Asn Lys Met His Ala Ile Pro Leu Arg Ser Ser Trp Val Met			
90	95	100	
acc tgt gcc tac gcc cgc tcc ggg aac tac gtt gcc tgt gga ggc ttg 391			
Thr Cys Ala Tyr Ala Pro Ser Gly Asn Tyr Val Ala Cys Gly Gly Leu			
105	110	115	
gat aac atc tgc tcc ata tac aac cta aag acc cga gag gga gat gtg 439			
Asp Asn Ile Cys Ser Ile Tyr Asn Leu Lys Thr Arg Glu Gly Asp Val			
120	125	130	
cgg gtg agc cga gaa ttg gca gga cac acg ggc tac ttg tcc tgc tgc 487			
Arg Val Ser Arg Glu Leu Ala Gly His Thr Gly Tyr Leu Ser Cys Cys			
135	140	145	
cga ttc tta gat gat gga caa atc att aca agt tcg gga gac acg act 535			
Arg Phe Leu Asp Asp Gly Gln Ile Ile Thr Ser Ser Gly Asp Thr Thr			
150	155	160	165
tgt gct ttg tgg gac att gag acc gga cag cag act acg acc ttc aca 583			
Cys Ala Leu Trp Asp Ile Glu Thr Gly Gln Gln Thr Thr Thr Phe Thr			
170	175	180	
gga cac tcg ggt gac gtg atg agc ctc tca ctg agt cct gac ttg aag 631			
Gly His Ser Gly Asp Val Met Ser Leu Ser Leu Ser Pro Asp Leu Lys			
185	190	195	
acg ttt gtg tct ggt gct tgt gat gca tcc tca aag ctg tgg gat atc 679			
Thr Phe Val Ser Gly Ala Cys Asp Ala Ser Ser Lys Leu Trp Asp Ile			
200	205	210	
cga gat ggg atg tgt aga cag tct ttc acc gga cac atc tca gac atc 727			
Arg Asp Gly Met Cys Arg Gln Ser Phe Thr Gly His Ile Ser Asp Ile			

•

<211> 340

<212> PRT

<213> Mus musculus

<400> 42

Met Ser Glu Leu Glu Gln Leu Arg Gln Glu Ala Glu Gln Leu Arg Asn

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Gln Ile Gln Asp Ala Arg Lys Ala Cys Asn Asp Ala Thr Leu Val Gln

20

25

30

Ile Thr Ser Asn Met Asp Ser Val Gly Arg Ile Gln Met Arg Thr Arg

35

40

45

Arg Thr Leu Arg Gly His Leu Ala Lys Ile Tyr Ala Met His Trp Gly

50

55

60

Tyr Asp Ser Arg Leu Leu Val Ser Ala Ser Gln Asp Gly Lys Leu Ile

65

70

75

80

Ile Trp Asp Ser Tyr Thr Thr Asn Lys Met His Ala Ile Pro Leu Arg

85

90

95

Ser Ser Trp Val Met Thr Cys Ala Tyr Ala Pro Ser Gly Asn Tyr Val

100

105

110

Ala Cys Gly Gly Leu Asp Asn Ile Cys Ser Ile Tyr Asn Leu Lys Thr

115

120

125

Arg Glu Gly Asp Val Arg Val Ser Arg Glu Leu Ala Gly His Thr Gly
130 135 140

Tyr Leu Ser Cys Cys Arg Phe Leu Asp Asp Gly Gln Ile Ile Thr Ser
145 150 155 160

Ser Gly Asp Thr Thr Cys Ala Leu Trp Asp Ile Glu Thr Gly Gln Gln
165 170 175

Thr Thr Thr Phe Thr Gly His Ser Gly Asp Val Met Ser Leu Ser Leu
180 185 190

Ser Pro Asp Leu Lys Thr Phe Val Ser Gly Ala Cys Asp Ala Ser Ser
195 200 205

Lys Leu Trp Asp Ile Arg Asp Gly Met Cys Arg Gln Ser Phe Thr Gly
210 215 220

His Ile Ser Asp Ile Asn Ala Val Ser Phe Phe Pro Ser Gly Tyr Ala
225 230 235 240

Phe Ala Thr Gly Ser Asp Asp Ala Thr Cys Arg Leu Phe Asp Leu Arg
245 250 255

Ala Asp Gln Glu Leu Leu Leu Tyr Ser His Asp Asn Ile Ile Cys Gly
260 265 270

Ile Thr Ser Val Ala Phe Ser Lys Ser Gly Arg Leu Leu Leu Ala Gly
275 280 285

Tyr Asp Asp Phe Asn Cys Ser Val Trp Asp Ala Leu Lys Gly Gly Arg
290 295 300

Ser Gly Val Leu Ala Gly His Asp Asn Arg Val Ser Cys Leu Gly Val
305 310 315 320

Thr Asp Asp Gly Met Ala Val Ala Thr Gly Ser Trp Asp Ser Phe Leu
325 330 335

Arg Ile Trp Asn
340

<210> 43

<211> 307

<212> DNA

<213> Mus musculus

<300>

<308> U37527

<309> 1997-12-30

<313> (1)..(307)

<220>

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<222> (40)..(267)

<400> 43

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Met Lys Glu Gly Met

1

5

tct aat aac agc acc acc agc atc tcc cag gcc agg aaa gcc gtg gag 102

Ser Asn Asn Ser Thr Thr Ser Ile Ser Gln Ala Arg Lys Ala Val Glu

10

15

20

cag ctg aag atg gaa gcc tgc atg gac agg gtg aag gtc tcc cag gct 150

Gln Leu Lys Met Glu Ala Cys Met Asp Arg Val Lys Val Ser Gln Ala

25

30

35

gcc tca gac ctc ctg gcc tac tgt gaa gcc cac gtg cgg gag gac ccc 198

Ala Ser Asp Leu Leu Ala Tyr Cys Glu Ala His Val Arg Glu Asp Pro

40

45

50

ctc atc atc cca gtg cct gcc tca gaa aac ccc ttc cgg gag aag aag 246

Leu Ile Ile Pro Val Pro Ala Ser Glu Asn Pro Phe Arg Glu Lys Lys

55

60

65

ttc ttc tgc acc atc ctc taa cacccatggc gatgaagcgg gccctttct 297

Phe Phe Cys Thr Ile Leu

70

75

gctgtaacag 307

<210> 44

<211> 75

<212> PRT

<213> Mus musculus

<400> 44

Met Lys Glu Gly Met Ser Asn Asn Ser Thr Thr Ser Ile Ser Gln Ala
 1 5 10 15

Arg Lys Ala Val Glu Gln Leu Lys Met Glu Ala Cys Met Asp Arg Val
 20 25 30

Lys Val Ser Gln Ala Ala Ser Asp Leu Leu Ala Tyr Cys Glu Ala His
 35 40 45

Val Arg Glu Asp Pro Leu Ile Ile Pro Val Pro Ala Ser Glu Asn Pro
 50 55 60

Phe Arg Glu Lys Lys Phe Phe Cys Thr Ile Leu
 65 70 75

<210> 45
 <211> 2666
 <212> DNA
 <213> Mus musculus

<300>
 <308> BC023729
 <309> 2003-04-16
 <313> (1)..(2666)

<220>
 <221> CDS
 <222> (252)..(2219)

<400> 45

ccacgcgtcc ggccccagcg caacgcgcag cagcctccct cctcttcttc ccgcactgtg 60
 cgctcctcct gggctagggc gtctggatcg agtcccggag gctaccgcct ccagacaga 120
 cgacaggcca cctggacgag agcctgtgtc cgggtctcgt cgttgccggc gcagtcactg 180
 ggcacaaccg tgggactccg tctgtctcgg attaatcccg gagagccaga gccaacctct 240
 cccggtcaga g atg cga ccc tca ggg acc gcg aga acc aca ctg ctg gtg 290
 Met Arg Pro Ser Gly Thr Ala Arg Thr Thr Leu Leu Val
 1 5 10
 ttg ctg acc gcg ctc tgc gcc gca ggt ggg gcg ttg gag gaa aag aaa 338
 Leu Leu Thr Ala Leu Cys Ala Ala Gly Gly Ala Leu Glu Glu Lys Lys
 15 20 25
 gtc tgc caa ggc aca agt aac agg ctc acc caa ctg ggc act ttt gaa 386
 Val Cys Gln Gly Thr Ser Asn Arg Leu Thr Gln Leu Gly Thr Phe Glu
 30 35 40 45
 gac cac ttt ctg agc ctg cag agg atg tac aac aac tgt gaa gtg gtc 434
 Asp His Phe Leu Ser Leu Gln Arg Met Tyr Asn Asn Cys Glu Val Val
 50 55 60
 ctt ggg aac ttg gaa att acc tat gtg caa agg aat tac gac ctt tcc 482
 Leu Gly Asn Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser
 65 70 75
 ttc tta aag acc atc cag gag gtg gcc ggc tat gtc ctc att gcc ctc 530
 Phe Leu Lys Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu
 80 85 90
 aac acc gtg gag aga atc cct ttg gag aac ctg cag atc atc agg gga 578
 Asn Thr Val Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly
 95 100 105

aat gct ctt tat gaa aac acc tat gcc tta gcc atc ctg tcc aac tat 626

Asn Ala Leu Tyr Glu Asn Thr Tyr Ala Leu Ala Ile Leu Ser Asn Tyr

110 115 120 125

ggg aca aac aga act ggg ctt agg gaa ctg ccc atg cgg aac tta cag 674

Gly Thr Asn Arg Thr Gly Leu Arg Glu Leu Pro Met Arg Asn Leu Gln

130 135 140

gaa atc ctg att ggt gct gtg cga ttc agc aac aac ccc atc ctc tgc 722

Glu Ile Leu Ile Gly Ala Val Arg Phe Ser Asn Asn Pro Ile Leu Cys

145 150 155

aat atg gat act atc cag tgg agg gac atc gtc caa aac gtc ttt atg 770

Asn Met Asp Thr Ile Gln Trp Arg Asp Ile Val Gln Asn Val Phe Met

160 165 170

agc aac atg tca atg gac tta cag agc cat ccg agc agt tgc ccc aaa 818

Ser Asn Met Ser Met Asp Leu Gln Ser His Pro Ser Ser Cys Pro Lys

175 180 185

tgt gat cca agc tgt ccc aat gga agc tgc tgg gga gga gag gag 866

Cys Asp Pro Ser Cys Pro Asn Gly Ser Cys Trp Gly Gly Gly Glu Glu

190 195 200 205

aac tgc cag aaa ttg acc aaa atc atc tgt gcc cag caa tgt tcc cat 914

Asn Cys Gln Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser His

210 215 220

cgc tgt cgt ggc agg tcc ccc agt gac tgc tgc cac aac caa tgt gct 962

Arg Cys Arg Gly Arg Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala

225 230 235

gcg ggg tgt aca ggg ccc cga gag agt gac tgt ctg gtc tgc caa aag 1010

Ala Gly Cys Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Gln Lys

240 245 250

ttc caa gat gag gcc aca tgc aaa gac acc tgc cca cca ctc atg ctg 1058

Phe Gln Asp Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu

255

260

265

tac aac ccc acc acc tat cag atg gat gtc aac cct gaa ggg aag tac 1106

Tyr Asn Pro Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr

270

275

280

285

agc ttt ggt gcc acc tgt gtg aag aag tgc ccc cga aac tac gtg gtg 1154

Ser Phe Gly Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val

290

295

300

aca gat cat ggc tca tgt gtc cga gcc tgt ggg cct gac tac tac gaa 1202

Thr Asp His Gly Ser Cys Val Arg Ala Cys Gly Pro Asp Tyr Tyr Glu

305

310

315

gtg gaa gaa gat ggc atc cgc aag tgt aaa aaa tgt gat ggg ccc tgt 1250

Val Glu Glu Asp Gly Ile Arg Lys Cys Lys Lys Cys Asp Gly Pro Cys

320

325

330

cgc aaa gtt tgt aat ggc ata ggc att ggt gaa ttt aaa gac aca ctc 1298

Arg Lys Val Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Thr Leu

335

340

345

tcc ata aat gct aca aac atc aaa cac ttc aaa tac tgc act gcc atc 1346

Ser Ile Asn Ala Thr Asn Ile Lys His Phe Lys Tyr Cys Thr Ala Ile

350

355

360

365

agc ggg gac ctt cac atc ctg cca gtg gcc ttt aag ggg gat tct ttc 1394

Ser Gly Asp Leu His Ile Leu Pro Val Ala Phe Lys Gly Asp Ser Phe

370

375

380

acg cgc act cct cct cta gac cca cga gaa cta gaa att cta aaa acc 1442

Thr Arg Thr Pro Pro Leu Asp Pro Arg Glu Leu Glu Ile Leu Lys Thr

385

390

395

gta aag gaa ata aca ggc ttt ttg ctg att cag gct tgg cct gat aac 1490

Val Lys Glu Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Asp Asn

400

405

410

tgg act gac ctc cat gct ttc gag aac cta gaa ata ata cgt ggc aga 1538

Trp Thr Asp Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg

415

420

425

aca aag caa cat ggt cag ttt tct ttg gcg gtc gtt ggc ctg aac atc 1586

Thr Lys Gln His Gly Gln Phe Ser Leu Ala Val Val Gly Leu Asn Ile

430

435

440

445

aca tca ctg ggg ctg cgt tcc ctc aag gag atc agt gat ggg gat gtg 1634

Thr Ser Leu Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val

450

455

460

atc att tct gga aac cga aat ttg tgc tac gca aac aca ata aac tgg 1682

Ile Ile Ser Gly Asn Arg Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp

465

470

475

aaa aaa ctc ttc ggg aca ccc aat cag aaa acc aaa atc atg aac aac 1730

Lys Lys Leu Phe Gly Thr Pro Asn Gln Lys Thr Lys Ile Met Asn Asn

480

485

490

aga gct gag aaa gac tgc aag gcc gtg aac cac gtc tgc aat cct tta 1778

Arg Ala Glu Lys Asp Cys Lys Ala Val Asn His Val Cys Asn Pro Leu

495

500

505

tgc tcc teg gaa ggc tgc tgg ggc cct gag ccc agg gac tgt gtc tcc 1826

Cys Ser Ser Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser

510

515

520

525

tgc cag aat gtg agc aga ggc agg gag tgc gtg gag aaa tgc aac atc 1874

Cys Gln Asn Val Ser Arg Gly Arg Glu Cys Val Glu Lys Cys Asn Ile

530

535

540

ctg gag ggg gaa cca agg gag ttt gtg gaa aat tct gaa tgc atc cag 1922
 Leu Glu Gly Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln
 545 550 555

tgc cat cca gaa tgt ctg ccc cag gcc atg aac atc acc tgt aca ggc 1970
 Cys His Pro Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly
 560 565 570

agg gga cca gac aac tgc atc cag tgt gcc cac tac att gat ggc cca 2018
 Arg Gly Pro Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro
 575 580 585

cac tgt gtc aag acc tgc cca gct ggc atc atg gga gag aac aac act 2066
 His Cys Val Lys Thr Cys Pro Ala Gly Ile Met Gly Glu Asn Asn Thr
 590 595 600 605

ctg gtc tgg aag tat gca gat gcc aat aat gtc tgc cac cta tgc cac 2114
 Leu Val Trp Lys Tyr Ala Asp Ala Asn Asn Val Cys His Leu Cys His
 610 615 620

gcc aac tgt acc tat gga tgt gct ggg cca ggt ctt caa gga tgt gaa 2162
 Ala Asn Cys Thr Tyr Gly Cys Ala Gly Pro Gly Leu Gln Gly Cys Glu
 625 630 635

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 Val Trp Pro Ser Gly Tyr Val Gln Trp Gln Trp Ile Leu Lys Thr Phe
 640 645 650

tgg atc taa gaccagaagc catctctgac tcccctctca cctccagtt 2259
 Trp Ile
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tcttccaaat cctctgggcc agccagaggt ctgagattct gccctcttgc cctgtgcca 2319

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35 40 45

Leu Ser Leu Gln Arg Met Tyr Asn Asn Cys Glu Val Val Leu Gly Asn

50 55 60

Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys

65 70 75 80

Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val
85 90 95

Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Ala Leu
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Tyr Glu Asn Thr Tyr Ala Leu Ala Ile Leu Ser Asn Tyr Gly Thr Asn
115 120 125

Arg Thr Gly Leu Arg Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu
130 135 140

Ile Gly Ala Val Arg Phe Ser Asn Asn Pro Ile Leu Cys Asn Met Asp
145 150 155 160

Thr Ile Gln Trp Arg Asp Ile Val Gln Asn Val Phe Met Ser Asn Met
165 170 175

Ser Met Asp Leu Gln Ser His Pro Ser Ser Cys Pro Lys Cys Asp Pro
180 185 190

Ser Cys Pro Asn Gly Ser Cys Trp Gly Gly Gly Glu Glu Asn Cys Gln
195 200 205

Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser His Arg Cys Arg
210 215 220

Gly Arg Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys

225 230 235 240

Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Gln Lys Phe Gln Asp

245 250 255

Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro

260 265 270

Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly

275 280 285

Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His

290 295 300

Gly Ser Cys Val Arg Ala Cys Gly Pro Asp Tyr Tyr Glu Val Glu Glu

305 310 315 320

Asp Gly Ile Arg Lys Cys Lys Lys Cys Asp Gly Pro Cys Arg Lys Val

325 330 335

Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Thr Leu Ser Ile Asn

340 345 350

Ala Thr Asn Ile Lys His Phe Lys Tyr Cys Thr Ala Ile Ser Gly Asp

355 360 365

Leu His Ile Leu Pro Val Ala Phe Lys Gly Asp Ser Phe Thr Arg Thr
 370 375 380

Pro Pro Leu Asp Pro Arg Glu Leu Glu Ile Leu Lys Thr Val Lys Glu
 385 390 395 400

Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Asp Asn Trp Thr Asp
 405 410 415

Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln
 420 425 430

His Gly Gln Phe Ser Leu Ala Val Val Gly Leu Asn Ile Thr Ser Leu
 435 440 445

Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser
 450 455 460

Gly Asn Arg Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu
 465 470 475 480

Phe Gly Thr Pro Asn Gln Lys Thr Lys Ile Met Asn Asn Arg Ala Glu
 485 490 495

Lys Asp Cys Lys Ala Val Asn His Val Cys Asn Pro Leu Cys Ser Ser
 500 505 510

Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Gln Asn
 515 520 525

Val Ser Arg Gly Arg Glu Cys Val Glu Lys Cys Asn Ile Leu Glu Gly
 530 535 540

Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro
 545 550 555 560

Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro
 565 570 575

Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val
 580 585 590

Lys Thr Cys Pro Ala Gly Ile Met Gly Glu Asn Asn Thr Leu Val Trp
 595 600 605

Lys Tyr Ala Asp Ala Asn Asn Val Cys His Leu Cys His Ala Asn Cys
 610 615 620

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